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The Management of Change in Finland's Wooden Historic Urban Landscapes

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Abstract

The present research elaborates the Architectural and Urban perspective on the multidisciplinary approach of the Historic Urban Landscapes, in the Fennoscandian cultural context.

The main purpose of the present study is to define and to clarify how to limit and control change in the wooden historic urban landscapes found in a specific cultural region: Finland. Managing change in the context of the thesis gathers a wide area of possible attitudes in relation to historic urban areas, including: non-intervention, intervention by conservation, development, protection, demolition or re-building. In order to adequately answer the question, one must clarify what **'change**', '**historic urban landscape'** and **'wooden [town]**' imply, as well as a number of other underlying concepts.

The main focus of the study is Old Rauma – a World Heritage site since 1991, viewed in a larger context: the cultural region of the Fennoscandia. Therefore, special attention is given to UNESCO wooden urban heritage, as it represents the most valuable and, at the same time, vulnerable and delicate form of historic urban landscape discussed and managed in contemporary practice. The role and impact of the recognition of World Heritage Sites is considered mainly through the comparative analysis of similar sites in the Nordic Countries. The narrower cultural context of Old Rauma is analysed through study cases of other historic urban areas of Finland. Defining a way to deal with change in wooden historic urban areas considered from the historic urban landscape perspective in the Nordic cultural context is one of the goals of this research, starting with the particularities and valued traits of these sites. In order to achieve a broader view on the phenomenon of the wooden historic urban landscape, the considered study cases are both World Heritage Sites as well as Finnish historic towns bearing enough similarities to be analysed in the same category.

The validity of the proposed tool: the Aggregated Management Plan for Finnish historic urban areas considering the historic urban landscape approach is supported by case studies and the elaboration of the plan for Old Rauma.

Johdanto

Tämä tutkimus käsittelee historiallista kaupunkimaisemaa monialaisesti arkkitehtuurin ja kaupunkiympäristön näkökulmasta. Tutkimuskohteiksi on valittu joukko Fennoskandian historiallisia kaupunkialueita. Tutkimuksen päätavoite on määritellä ja selventää, kuinka muutosta voidaan rajoittaa ja hallita historiallisissa puukaupungeissa spesifisellä kulttuurialueella, Suomessa. Muutoksenhallinta merkitsee tämän tutkimuksen puitteissa laajaa kirjoa mahdollisia asennoitumistapoja historiallisiin kaupunkialueisiin: näitä ovat esimerkiksi puuttumattomuus, konservointi, kehittäminen, suojelu, purkaminen ja jälleenrakennus. Jotta kysymykseen voidaan riittävällä tarkkuudella vastata, on ensin määriteltävä muutos, historiallinen kaupunkimaisema ja puu[kaupunki], sekä joukko muita peruskäsitteitä.

Käytäntöä ihannetapauksessa ohjaavan teorian fokus on siirtynyt monumentista itsestään sen käyttäjiin ja sidosryhmiin. Tämä fokuksen merkittävä vaihtuminen tuo muutoksia siihen, millä tavoin konservointia ja restaurointia toteutetaan, ja kuinka siihen suhtaudutaan; se edellyttää myös joidenkin peruskäsitteiden uudelleentulkintaa. On myös otettava käyttöön sellaiset käsitteet kuin kulttuurimaisema, historiallinen urbaani maisema ja kulttuuriomaisuus.

Yksittäisiin historiallisiin arkkitehtonisiin kohteisiin liittyvät käytännöt ovat erityisesti pohjoismaissa kehittyneet huomattavasti viimeisen viidenkymmenen vuoden aikana, aluksi kehittämällä erilaisia tapoja puuttua kohteisiin. Esimerkkejä näistä ovat kunnossapito, suojelu, säilyttäminen, konservointi, vahvistaminen, restaurointi ja ennallistaminen[1]. Käytännön tason toimenpiteet eivät ole ainoa tapa parantaa kohteita ja niiden ympäristöä. Sellaisten käsitteiden kuin ”eheys”, autenttisuus”, ”merkittävyys”, ”suojelu” ja ”hoitaminen” merkitys on kasvanut kulttuuriperinnön säilyttämisen yhteydessä, ja niiden sisältö uudistuu jatkuvasti. Nykyisin suojelun käytäntöihin kuuluu myös sellaisten viestintätyökalujen kehittäminen, jotka lisäävät kohteen tuntemusta ja luettavuutta, ja siten vaikuttavat kohteen kehitykseen ilman suoraa fyysistä puuttumista. Pohjoismaissa suojelukohteiden määrittelyä ja käytännön suojelutyön perusperiaatteita ohjaava teoria on ylittänyt aiemmat rajansa – se kokoaa yhteen yhä suuremman joukon erilaisia konsepteja ja osaamisaloja. Kestävä kehitys, yhteisön vaikutusmahdollisuuksien lisääminen, vallitsevien arvojen vaaliminen ja vahvistaminen, tiedon ymmärtäminen ja levittäminen, samoin kuin kulttuurisesti merkittävään alueeseen liittyvä turismi ymmärretään nykyisin toisiinsa liittyviksi ja toisistaan riippuviksi. Lisäksi tätä kulttuurialuetta ja sen historiallista perintöä on enimmäkseen leimannut puurakentaminen. Tämän perustekijän ottaminen tarkastelun kohteeksi luo kuvaa menneistä sosiaalisista ja taloudellisista oloista, ja sillä voi myös olla vaikutusta suojelutoimenpiteiden luonteeseen tulevaisuudessa.

Tutkimus keskittyy pääasiassa Vanhaan Raumaan, joka on ollut maailmanperintökohde vuodesta 1991. Vanhaa Raumaa tarkastellaan Fennoskandian laajemmassa kulttuurikontekstissa. Erityistä huomiota kiinnitetään siis puukaupunkeihin Unescon maailmanperintökohteina. Kyse on arvokkaimmasta ja samalla haavoittuvimmasta ja herkimmästä nykyään keskustelun ja suojelutoimenpiteiden kohteena olevasta kaupunkimaisemasta. Maailmanperintökohteiden tunnustamisen merkitystä ja vaikutuksia tarkastellaan lähinnä vertailevan analyysin kautta, suhteessa samankaltaisiin pohjoismaisiin kohteisiin.

Arkkitehtonisen perinnön kannalta Unescon suojelukohteeksi nimeäminen merkitsee kohteiden statuksen, arvostuksen, kehitysdynamiikan ja talouden muuttumista. Samalla muuttuvat kohteiden hoitoon ja hallintaan liittyvät käytännöt; muutokset ovat enimmäkseen

[1] Feilden M. Bernard, Jokilehto Jukka; Management guidelines for world cultural heritage sites;

hyödyllisiä sekä arkkitehtuuriperinnön että siihen kytkeytyvien yhteisöjen kannalta.[2]. Mitä tulee toimenpiteisiin, yksi ensimmäisistä näkökulman muutoksista on kuitenkin melko jäykän muutos- ja kehittämislinjan omaksuminen ainutlaatuisten yleismaailmallisten arvojen säilyttämiseksi. Kehittämisestä ja säilyttämisestä tulee turhan usein vastakkaisia toimia ja ”muutoksesta” kaksiteräinen miekka. Ilmeinen ristiriita samanaikaisen muutoksen ja ”muuttumattomuuden” tarpeen, kehittämisen ja säilyttämisen sekä nykyaikaisuuden ja nostalgian välillä, on ymmärrettävä ja hallittava, sillä kumpaan tahansa ääripäähän joutuminen saattaisi pysyvästi vahingoittaa perintökohdetta ja johtaa sen menettämiseen. Siksipä arkkitehtuuriperinnön Unescon kohteisiin luetteloinnin hyötyjä ja riskejä pitäisi pohtia ja analysoida. Samoin olisi pohdittava maailmanperintökohteeksi valinnan jälkivaikutusta, riskejä sekä etuja.

Vanhan Rauman suppeampaa kulttuurikontekstia eritellään muihin suomalaisiin historiallisiin kaupunkialueisiin sijoittuvien tapaustutkimusten avulla. Yksi tämän tutkimuksen tavoitteista on määritellä keinot muutoksen hallintaan historiallisissa puukaupungeissa, joita tässä tarkastellaan historiallisen urbaanin maiseman (Historic Urban Landscape, H.U.L.) näkökulmasta pohjoismaisessa kulttuurikontekstissa. Lähtökohtana ovat näiden kohteiden erityispiirteet ja erityisarvo. Jotta historiallisista puukaupungeista saadaan laajempi kuva, käsiteltävät tapausesimerkit edustavat sekä maailmanperintökohteita että sellaisia suomalaisia historiallisia kaupunkeja, joilla on sellainen määrä yhteisiä piirteitä maailmanperintökohteiden kanssa, että niitä voidaan tarkastella samassa luokassa.

Ehdolla olevan työvälineen validiteetti: suomalaisia historiallisia kaupunkialueita koskevaa yhdistettyä hoitosuunnitelmaa (Aggregated Management Plan) tukevat sekä tapaustutkimukset että Vanhaa Raumaa koskevan suunnitelman kehittäminen.

Aiheeseen liittyvät tutkimukset

Tutkimuksessa käytetty dokumentointi liittyy tapaustutkimusten kohteisiin, tarkoituksena osoittaa kunkin alueen paikallishistorian ja aluekohtaisen kehityksen tuottamat erityispiirteet. Pohdinnan kohteina ovat myös asutuskeskusten kehittymiseen liittyvät sosioekonomiset tekijät niiden erityispiirteiden kannalta.

Pääosin Unescon ja ICCROMin julkaisemat kansainväliset sopimukset, käsikirjat ja asiakirjat ovat lähtökohta sille, miten suojeluun liittyvät periaatteet nykyisin määräytyvät ja miten niitä tulkitaan. Useimmat nykyisistä yleissopimuksista perustuvat tänä päivänä ”klassikkoina” pidetyissä suojelua käsittelevissä teksteissä esiteltyihin periaatteisiin[3]. Nämä tekstit ovat relevantteja ja niihin viitataan aiheen mukaan tutkimuksen eri osissa, mutta ne eivät ole tämän tutkimuksen kohteena. Väitöskirjan on tarkoitus tuoda ehdolle menetelmä, parempi lähestymistapa historiallisten kohteiden – erityisesti historiallisten puurakennuskohteiden – käsittelyyn, hyödyntäen kansainvälisesti vakiintuneita nykyaikaisia periaatteita.

Tutkimuksen pohjana on ”historiallinen urbaani maisema” -käsite (Historic Urban Landscape), joka määriteltiin ensimmäisen kerran Wienin asiakirjassa vuonna 2005[4]. Historiallinen

[2] UNESCO: “Once a country signs the Convention, and has sites inscribed on the World Heritage List, the resulting prestige often helps raise awareness among citizens and governments for heritage preservation. Greater awareness leads to a general rise in the level of the protection and conservation given to heritage properties.” http://whc.unesco.org/ Haettu 11/2014

[3] Esimerkiksi John Ruskin: Seven Lamps of Architecture, William Morris: SPAB Manifesto, Camillo Sitte: The Birth of Modern City Planning.

[4] The Vienna Memorandum. 2005. Osoitteessa : http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf Haettu 12/2014

urbaani maisema -käsite kehitettiin useiden kulttuuriperintöön liittyvien perusnäkemysten pohjalta. Näistä ensimmäiset ovat jo 100-150 vuoden takaa. Taustalla on lisäksi joukko kehitteillä olevia käsitteitä, joihin tässä tutkimuksessa paneudutaan. Uuden käsitteen takana on esimerkiksi John Ruskinin[5], William Morrisin ja Eugène Viollet-le-Ducin tutkimukset, Camillo Sitten moderni tulkinta arkkitehtuurista ja urbaanista perinnöstä, Alois Reglin[6] tutkimustyö, joka on pohjana nykyteorioille perintökohteiden suojelusta, Camillo Boiton näkemys monumenttien autenttisuudesta, Patrick Geddesin käsitys kaupungista elävänä organismina, Gustavo Giovannonin typomorfologinen urbaanin perinnön analyysi, Giancarlo de Carlon näkemys kaupunkiympäristön hoidosta, kansalaisten osallisuudesta ja konsensuksesta, sekä M.R.G. Conzenin esittämä, Saverio Muratorin ja Gianfranco Caniggian[7] edelleen kehittelemä ajatus kaupungista historiallisena, kerroksellisena prosessina. Erityistä huomiota kiinnitetään käsitteisiin *genius loci* (paikan henki) ja *aineeton kulttuuriperintö,* joita ovat pohtineet ja kehittäneet Patrick Geddes[8] ja Christian Norberg-Schultz[9].

Suomessa kaupunkisuunnittelun asiakirjoissa ja käytännöissä on yleensä varmistettu kulttuuriperinnön säilyttäminen[10], ja niitä pidetään lähtökohtana arvioitaessa Suomen historiallisten urbaanien maisemien suojelua, konservointia ja hoitoa. Erityppisten kulttuuriperintökohteiden suojelua ohjeistavat ja säätelevät maankäyttö- ja rakennuslaki[11], laki rakennusperinnön suojelemisesta[12], asetus valtion rakennusten suojelusta[13], kirkkolaki[14], laki Museovirastosta[15], luonnonsuojelulaki[16], tieliikennelainsäädäntö ja laki kulttuuriesineiden maastaviennin rajoittamisesta[17]. Historiallisen urbaanin maiseman käsitettä verrataan tässä tutkimuksessa samankaltaisiin, erilaisissa lainsäädännöllisissä asiakirjoissa käytettyihin ja niissä tarkasteltuihin käsitteisiin. Viime kädessä perintökohteiden suojelu perustuu suunnittelutyöhön, jossa ovat osallisina museo- ja ympäristöviranomaiset sekä muut asianosaiset. Suomessa käytetyt työkalut ovat yleensä toiminnallisia ja pragmaattisuudessaan ne jättävät varsin vähän tilaa ideologiselle keskustelulle tai teorian kansainvälisen kehityksen mukanaan tuomille muutoksille. Suomalaisen kulttuuriperinnön suojelun kehitystä ohjaa Museovirasto, tehtävänään valvoa kulttuurisesti ja historiallisesti merkittävän ympäristön, arkeologisen kulttuuriperinnön ja muun kulttuuriomaisuuden säilyttämistä ja suojelua. Se vastaa kulttuurihistorian kansalliskokoelman säilyttämisestä, ”tutkii aineellista kulttuuriperintöä sekä tukee ja kehittää museoalaa

[5] Ruskin, John. 1989. The Seven Lamps of Architecture. London: Dent and Sons.
[6] Riegl, Alois. 1996. “Modern Cult of Monuments: Its Character and Its Origin.” Teoksessa Historical and Philosophical Issues in the Conservation of Cultural Heritage, toimittaneet Nicholas Price, M. Kirby Talley Jr., and Alessandra Melucco-Vaccaro, 69–83. Getty Conservation Institute.
[7] Bandarin, Francesco, ja Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. John Wiley & Sons. P.28
[8] Idem. s.32
[9] Christian Norberg-Schulz sai vaikutteita Heideggerin fenomenologiasta ja määritteli termin genius loci eksistentiaaliseksi tilaksi, jota nykyisin käytetään ”aineeton perintö” -käsitteen yhteydessä.
[10] Museovirasto. Lähde: http://www.nba.fi/
[11] Maankäyttö- ja rakennuslaki 132/1999, lainmuutos 222/2003 osoitteessa http://www.finlex.fi/en/laki/kaannokset/1999/en19990132.pdf Haettu 06/2014
[12] Laki rakennusperinnön suojelemisesta 498/2010 osoitteessa: http://www.finlex.fi/fi/laki/smur/2010/20100498 Haettu 06/2014
[13] Asetus valtion rakennusten suojelusta 480/1985 osoitteessa: http://www.finlex.fi/fi/laki/ajantasa/kumotut/1985/19850480 Haettu 06/2014
[14] Kirkkolaki 1054/1993 osoitteessa: http://www.finlex.fi/fi/laki/ajantasa/1993/19931054?search%5Btype%5D=pika&search%5Bpika%5D=kirkkolaki Haettu 06/2014
[15] Laki Museovirastosta 282/2004, osoitteessa: http://www.finlex.fi/fi/laki/alkup/2004/20040282 Haettu 06/2014
[16] The Nature Conservation Act (1096/1996, Finlex) osoitteessa: http://www.finlex.fi/en/laki/kaannokset/1996/en19961096.pdf Haettu 06/2014
[17] Laki kulttuuriesineiden maastaviennin rajoittamisesta 115/1999 osoitteessa: http://www.finlex.fi/fi/laki/ajantasa/1999/19990115?search%5Btype%5D=pika&search%5Bpika%5D=Kulttuuriesineiden%20maastavienti Haettu 06/2014

valtakunnallisesti"[18].

Kysymyksenasettelu ja tutkimushypoteesi

Suomalaisten historiallisten alueiden tuntemukseen ja suojeluun vaikuttaa merkittävällä tavalla niiden tuntemus ja suojelu historiallisina urbaaneina maisemina. Olisi siis syytä olettaa, että kulttuuriperinnön suojelua koskevan teorian viimeaikaisen kehityksen myötä käsitykset kulttuuriperinnöstä ja tavat lähestyä sitä olisivat laaja-alaistuneet. Koska kulttuuriperinnön laajempi konteksti on kasvattanut merkitystään, myös suojelun välineet pitäisi ottaa uudelleen tarkasteluun. Millainen uusi väline voisi tuoda parannuksia tapaan lähestyä, ymmärtää ja suojella kulttuuriperintöä suomalaisen historiallisen urbaanin maiseman näkökulmasta?

Tämän tutkimuksen tutkimushypoteesin mukaan *hoitosuunnitelmia voidaan käyttää kattavampana työvälineenä, jonka avulla tarkastellaan kulttuuriperintöä historiallisen urbaanin maiseman näkökulmasta ja yhdenmukaistetaan suojelustrategiat ja -suunnitelmat, tavoitteena vallitsevien arvojen säilyttäminen ja muutoksen hallinta Suomen historiallisilla kaupunkialueilla.*

Tutkimusmenetelmät

Suomalaisen historiallisen kaupungin määrittelyyn historiallinen urbaani maisema -käsitteen mukaisesti ja siihen liittyvän hallintotyökalun kehittämiseen käytettiin tutkimuksessa kahta eri tutkimustapaa. Näistä ensimmäinen nojautuu kansainväliseen dokumentaatioon ja sopimuksiin, joiden julkaisijoina ovat lähinnä UNESCO ja ICOMOS. Runsasta käsitteistöä on tutkittu kvalitatiivisin menetelmin pääasiassa luvussa 1. Lähtökohtana oli perintökohteiden säilyttämistä ja suojelua koskeva vallitseva kansainvälinen näkemys, ja tarkempi analyysi kohdistui muutamaan valittuun kokonaisuuteen. Tämän väitöskirjatyön laadullisen tutkimuksen aineisto on kerätty kahden kurssin puitteissa: Fourth International Course on the Conservation of Modern Architecture (MARC 2011)[19] ja International Course on Wood Conservation Technology (ICWT)[20].

Toinen tutkimustapa pohjautuu esille tuotujen tapausesimerkkien tulkinnalliseen ja historialliseen tutkimukseen. Historiallinen analyysi, tekstianalyysi, kenttäanalyysi sekä paikallisväestön parissa tehdyt haastattelut ja kyselyt on koottu yhteen, ja esiteltyjen kohteiden merkitykset ja arvot on eritelty bottom-up-periaatteella. Kappaleissa 2, 5 ja 7 historiallisten kaupunkien historiallisessa analyysissa on käytetty useita arkistolähteitä: Rauman museo, Tammela-Rauma, Rauman kaupunkisuunnitteluosasto, Kristiinankaupungin museot, Kristiinankaupungin kaupunkisuunnitteluosasto, Tammisaaren museo (Länsi-Uudenmaan maakuntamuseo), Porvoon museo ja kaupunginkirjasto, Uudenkaupungin kaupunkisuunnitteluosasto, Uudenkaupungin kulttuurihistoriallinen museo, Dalarnas museum ja arkistot, Gammelstadin kirkkokylän museo ja arkistot, Røros museum sekä Rørosin kaupunkisuunnitteluosasto sekä Riksantikvaren-kirjasto. Erilaisten historiallisten puukaupunkimaisemien erityisluonteen ja niihin kohdistuvien yhteisten uhkatekijöiden ymmärtämiseksi oli olennaista ulottaa tutkimus useisiin Fennoskandian alueen historiallisiin urbaaneihin maisemiin.

Tämän tutkimuksen eri osissa on käytetty kulloinkin tarkoituksenmukaisimpia tutkimusmenetelmiä. Näitä ovat tekstianalyysi, kenttäanalyysi, asiantuntijoiden haastattelut,

[18] Museovirasto. Lähde: http://www.nba.fi/
[19] Fourth International Course on the Conservation of Modern Architecture (MARC 2011). ICCROM. 28.5. – 23.6. 2011. Helsinki. Lisätietoa osoitteessa https://wiki.tut.fi/MARC2011/WebHome
[20] International Course on Wood Conservation Technology (ICWCT). ICCROM. 23.5. – 29.6. 2012, Oslo, Norja.

historiallisten valokuvien tarkastelu ja analysointi, kartat ja suunnitelmat sekä paikallisväestölle suunnatut kyselyt.

Väitöskirjan rakenne

Tutkimus on jaettu kuuteen lukuun:

Ensimmäisessä luvussa ”The Contemporary Theory of Conservation” tarkastellaan käsitettä ”historiallinen urbaani maisema” (Historic Urban Landscape, H.U.L) sekä joukkoa siihen liittyviä käsitteitä, siten kuin ne nykyisin ymmärretään. Lähteinä on käytetty pääasiassa kansainvälistä tunnustusta saaneita julkaisuja. Tarkoituksena ei ole määritellä käsitettä paikkaspesifisesti, vaan pikemminkin tuoda esille se, miten termi ja muut siihen liittyvät ajatukset on yleisesti ymmärretty.

Toinen luku, Nordic World HeritageWooden Urban Landscapes”, käsittelee historiallista urbaania maisemaa laajemmassa kontekstissa ja siinä esitellään Fennoskandian alueen luetteloidut ”puiset” historialliset kaupunkimaisemat vertailevan analyysin kautta. Tarkastelun kohteina ovat Gammelstadin kirkkokylä Ruotsin Luulajassa, Falunin Stora Kopparbergin kaivosalue Ruotsissa, Rørosin kaivoskaupunki ja sen ympäristö Norjassa sekä Vanha Rauma Suomessa. Tarkastelussa keskitytään kohteiden erityispiirteisiin, heikkouksiin ja suojelupoliittisiin linjauksiin.

Luvussa 3 käsitellään historiallisia kaupunkimaisemia paikallisemmasta, suomalaisen kulttuurialueen näkökulmasta. Luotaessa kuva historiallisen urbaanin maiseman luonteesta Suomessa, tarkastellaan lähemmin ”puukaupungin” käsitettä, samoin kuin suomalaisen puuarkkitehtuurin ominaispiirteitä, historiallista kaupunkisuunnittelua sekä nykykäsitystä historiallisten alueiden konservoinnista ja suojelusta. Luvussa osoitetaan, että alueiden merkitys ja erityislaatu ovat historiallisen urbaanin maiseman ymmärtämisen kannalta tärkeämpiä tekijöitä kuin yksittäiset kohteet tai urbaanin ympäristön osat.

Luvussa 4 tarkastellaan Suomen historiallisia kaupunkeja historiallisen urbaanin maiseman näkökulmasta, usean tapaustutkimuskohteen puitteissa. Tarkoituksena on tuoda esille merkitystä luovat tekijät, samoin kuin uhkatekijät, joita perinteisissä suojelua koskevissa suunnitelmissa ja kaupunkisuunnittelussa ei oteta huomioon. Ajatusta erityisluonteesta ja harvinaisuudesta kehitetään pidemmälle tarkasteltaessa puun luonnetta suomalaisissa historiallisissa urbaaneissa maisemissa. Luvussa pyritään lisäksi selventämään, onko olemassa yhteisiä ongelmia, puutteita ja uhkatekijöitä, jotka liittyvät käsityksiin suomalaisista historiallisista maisemista ja näiden maisemien suojeluun. Tapaustutkimusten kohteina ovat Vanha Rauma, Vanha Porvoo, Tammisaaren historialliset alueet, Uusikaupunki ja Kristiinankaupunki. Luvussa käsitellään myös maailmanperintökohteiden ehdokkuusprosessia, kohteena Porvoon ja Vanhan Rauman kilpailu ehdokkuudesta. Lyhyesti pohdittavana ovat myös peräkkäiset kohde-esitykset ja yhtenäinen, usean kohteen kattava integroitu hoitosuunnitelma.

Viidennessä luvussa tuodaan pohdittavaksi koko historiallisen urbaanin maiseman kattavan hoitosuunnitelman rakenne. Esillä ovat niin ikään monialaiset lähestymistavat sekä joukko kysymyksiä arkkitehtuurin ja kaupunkisuunnittelun ulkopuolelta, vaikka painotus onkin arkkitehtuurin ja urbanismin aihealueissa. Luvussa esitellään yhdistetty hoitosuunnitelma (Aggregated Management Plan) innovatiivisena konseptina ja kuvaillaan useita Euroopassa tarjolla olevia toimintamalleja perintökohteiden hoitamiseksi.

Kuudes luku sisältää esityksen Vanhan Rauman yhdistetyksi hoitosuunnitelmaksi. Suunnitelmassa kohdetta käsitellään monesta näkökulmasta, päämääränä sen tuntemus ja

suojelu historiallisena urbaanina maisemana.

Kontribuutio

1. Tutkimuksessa määritellään Suomen ”puukaupungit” uudelleen noudattaen Historic Urban Landscape -lähestymistapaa, yhdistämällä niiden tuntemus laajempaan kulttuurikontekstiin ja arvioimalla uudelleen puuarkkitehtuurin merkitys.

2. Tutkimuksessa määritellään yhdistetyn hoitosuunnitelman rakenne käyttäen monialaista historiallisen urbaanin maiseman lähestymistapaa.

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Tekstin kääntäjä: Mikko T Helminen

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List of abbreviations

H.U.L. – historic urban landscape

M.P. – management plan

A.M.P. – aggregated management plan

H.I.A. – heritage impact assessment

O.U.V. – outstanding universal value

SoOUV – statement of outstanding universal value

MC - moisture content

MCw – moisture content in wood

NBA – National Board of Antiquities or Museovirasto

Acknowledgements

The present research has been carried out during the period 2011 -2014 at the School of Architecture of the Tampere University of Technology.

My graduation project in 2009, "The recovery of the Kornis ensemble" set the first step on a journey that would continue for more than 5 years. It made me discover that heritage is valuable but also very delicate and fragile and that identifying and preserving values can be at times more difficult than creating new ones. After graduation I decided to study what at the time seemed like the most delicate, ample and problematic type of heritage: Wooden Towns listed as World Heritage Sites. A one month trip through the Nordic Countries in 2011, illustrated in the Chapter 2 of the present thesis, set me on the path I walk today. During the trip collaboration with various site authorities has been established, which greatly contributed to the outcome of the research.

Countless trips to various Finnish historic towns followed between 2011 and 2014. During these trips I started to question the definition and nature of the "wooden town" as well as the efficiency of the existing conservation and protection plans. Old Rauma was the most interesting and the most researched site. The experience was partially documented in the 4th chapter of the thesis. Again, contact with the local authorities was established. One of the major impediments in researching Finnish heritage was the language. Old Rauma is perhaps the best documented Finnish site with the most accessible information. However, the language barrier significantly cumbered the research at this stage.

During the 2011 International Course on Conservation of Modern Architecture and later in 2012 during the 15th International Course on Wood Conservation Technology I started to question the approach to heritage in general and to historic towns in particular. I became more interested in the historic urban landscape approach, which would become one of the core concepts of the thesis. During these internationally renowned courses I came in contact with heritage experts that changed my view on heritage, especially in terms of conservation and heritage protection. Although every decision made, from non-intervention to demolition, impacts heritage in a lesser or greater way, the reality is that change cannot be avoided. Developments carried out in the vicinity of historic areas can have unexpected effects. Therefore my idea of "preserving existing values" evolved into "controlling change".

The management of change became the tool aimed at controlling change in historic areas. Management plans are used nowadays as operational tools, especially for World Heritage Sites. However, many components such as impact assessments or tourism development plans were considered in a separate manner. In Finland, some aspects of the management plans are included in town planning but some fundamental elements are left out. Information and studies with regard to maintaining values in historic areas are often incomplete and fragmented. Historic areas are not always regarded in their complexity, and many aspects –especially the intangible ones- are overlooked. Through empirical studies I realized that the stakeholders often have a hard time identifying values, although it was quite clear that they knew why different sites are meaningful for them. The need to view historic areas as historic urban landscapes and to maintain their values by managing the inevitable changes generated the new tool presented in chapter 5. The new tool is finally tested on one of the most delicate World Heritage Sites: Old Rauma, which is

under serious threat from the recently proposed developments in its immediate surroundings. Whether the tool can find its use in practice remains to be seen.

For the outcome of this academic journey, foremost, I would like to express my sincere gratitude to my supervisor, professor architect **Olli-Paavo Koponen** for his professional expertise, guidance, support and patience throughout the whole process of my research.

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Finally, I wish to thank my family and loved ones for their sacrifices, support and encouragement throughout my studies, for giving me wings to fly, roots to come back and reasons to stay.

Tampere 2015

Architect Anca Dumitrescu

Introduction

In the Nordic Countries more than 17% of the existing World Heritage Sites are represented by wooden towns and districts. In 2011 the World Heritage List included 725 cultural properties[21], of which about 300 from Europe including the 28 belonging to the Nordic Countries. From the 28 Nordic World Heritage Sites, 15 represent sites of continuous use, reflecting both the Nordic culture as well as its historic development until today. Of these 15 sites, 8 are districts, towns or settlement and 5 are wooden. Therefore the wood itself has the potential to contain the specificity and particularity of the analysed sites, to the point of establishing a typology based on the building material. Is the "wooden town" a viable concept for delineating the specific historic urban landscapes of the Nordic Countries, since Old Rauma is "an outstanding example of the traditional wooden architecture and urbanism in this part of Europe."?[22]

The Historic Urban Landscape has been officially proposed as an approach, a management tool [23] in UNESCO's Operational Guidelines in 2009, but has been discussed as a concept and potential additional category starting with the Vienna Memorandum in 2005[24]. For Finland's historic towns both the concept and the approach of H.U.L. are relevant in terms of both future understanding and interpretation of heritage as well as for improving the existing conservation and protection policies. However, the approach has not been implemented for historic urban areas, and tools for managing change are not being used to mitigate the conflict between conservation and development in these areas.

State of the art

The evolution of conservation concepts has been overseen by international bodies, attempting to unify diverging concepts; the changes in concepts over the past decades justify the attempts to re-evaluate and re-define some of the historically established values from a contemporary perspective. For the past 10 years developments have been made in the theory and practice of "Conservation and Restoration" of historic monuments. "Nostalgia becomes imperative, not a desire to turn back, however, but a need to preserve the given through new interpretation"[25] and as such, "creative conservation"[26] must find its basis on the continuous assessment of the values and risks identified in relation to monuments. The "new interpretation" of the given means redefining and repositioning the monument in its cultural, social and economic context, means bringing it "up to date" which doesn't necessarily translate into physical intervention.

The theory, which ideally acts as guideline and reference for the practice, has shifted its focus from the monument itself to its users and the stakeholders involved. This significant shift in focus changes the way conservation and restoration are carried out and thought of; it also requires a reinterpretation of some basic concepts as well as the introduction of new concepts

[21] Available at http://whc.unesco.org/en/list/stat last accessed August 2012
[22] Old Rauma nomination: available at http://whc.unesco.org/en/list/582
[23] Convention Concerning The Protection Of The World Cultural And Natural Heritage. World Heritage Committee Thirty-third session. Spain 2009. Available at http://whc.unesco.org/archive/2009/whc09-33com-7-1e.pdf last accessed July 2014.
[24] Vienna Memorandum on "World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape". UNESCO. 2005. Available at http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf last accessed June 2014
[25] Christian Norberg-Schulz; "Nightlands", p.22
[26] Idem 3

such as "cultural landscape, historic urban landscape, cultural property ". Although the theory of conservation and restoration had always as final objective keeping the values of the monument, by redefining the terms one starts to wonder about the nature of this basic concept. At this level, the questions are multiple and philosophical in nature: is "value" a universal, objective and quantifiable concept, who defines the values and what do they reflect in a historic monument, are values constant or are they changing, how much objectivity and science is involved in defining values for a monument, and how far should one go in order to preserve a value.

The history, management and protection of heritage include extensive sites such as town centres, which work in connection to the contemporary city, sometimes at the same pace with it. Having a layer of historical significance within a living city can only enhance the value of the place, but when that layer becomes a commodity fractures in the urban continuum may occur. Using a particular well defined area of the town chiefly as a tourism resource, can become a threat to the entire area in time by gradually freezing the historic core. As a living piece of history, historic urban landscape, place of dwelling and exchanges, layered strata of significance, the "historic city" can only be analysed and managed considering a multidisciplinary approach.

For the past 50 years, especially in the Nordic countries, the practice of dealing with individual architectural historic monuments has evolved significantly, at first by refining the various manners of intervention: from **maintenance, protection, preservation, conservation, consolidation, restoration, reconstruction** and so on[27]. Hands-on intervention is not the only manner in which changes or improvements can be brought to the monuments and their environment. Notions such as "integrity", "authenticity", "significance", "protection and management" have become increasingly important in relation to heritage conservation and are constantly being updated. Nowadays conservation practice includes designing the communication tools used to improve the understanding and legibility[28] of the monument and that can influence the monument's evolution without direct physical interference. The practice has grown far too complex to be simply called "Conservation", or "Restoration" – concepts which nowadays define processes rather than objectives in relation to the architecture monument. In the Nordic Countries, the theory recording and providing the pillars for the practice of dealing with monuments has surpassed its previous boundaries, gathering ever more concepts and fields of expertise. **Sustainable development, community empowerment, protection and enhancement of present values, understanding and disseminating information** as well as tourism associated to a culturally relevant area, are nowadays viewed as linked and interdependent. Furthermore, for this cultural region wood has been the defining historic material for most historic heritage. This adds one more element to be considered, one element that can illustrate past social and economic realities and that can influence the type of future possible interventions.

UNESCO as an organisation meant to create the conditions for dialogue among civilizations, cultures and peoples, based upon respect for commonly shared values, was established in 1945. Promoting peace and cultural dialogue, it deals with far more than

[27] Feilden M. Bernard, Jokilehto Jukka; Management guidelines for world cultural heritage sites;

[28] Readability or legibility as part of the communication process between heritage and observer or interpreter, refer to the ability of an object to be correctly understood and interpreted. Authenticity or the truth nature of the object could be defined as the ability of the object to convey its truthful meaning to the observer - the more legible the object, the more authentic and truthful it is. Legibility expresses the capacity of an object to communicate meaning, and conveying: is what defines the values of cultural heritage. However, the degree in which meanings are understood and recognised by a significant group of individuals is given by the legibility of the object but also by the awareness stakeholders have of the object.

architecture, even when tackling architectural heritage. Through education, addressing social and ethical challenges, fostering cultural diversity, intercultural dialogue and the culture of peace, encouraging the flow of information, communication and discouraging conflict, UNESCO has become one of the leading cultural bodies influencing today's society, one that has undoubtedly changed the way in which we view the architectural heritage. UNESCO has once again brought "humanity" as the main focus of all actions, and in terms of architecture heritage has influenced the shift of interest from the object itself, to the people involved.

Although UNESCO's polices and ideas influence the way we view and address architecture monuments in general, the most obvious influence is made in what the World Heritage Sites are concerned. By selecting and promoting those monuments that have the highest cultural relevance for all humanity, UNESCO changes the evolution of certain places and the way the general public understands and behaves within those places. For architectural heritage, being nominated as an UNESCO protected site means a change of status, perception, evolution dynamics, economy, intervention policies and management of the objects involved, changes that are most of the time beneficial for the architectural heritage as well as for the communities involved[29]. However, one of the first immediate changes in approach, in terms of the intervention actions, is that relatively rigid policies of change and development are established in order to preserve the identified Outstanding Universal Values. Development and preservation become much too often contradictory measures, whilst "change" becomes a double edged sword. This apparent paradox of the simultaneous need for change and the "unchanged", development and preservation, contemporaneousness and nostalgia, has to be understood and managed since falling into either extreme might mean permanent damage and loss of the heritage. Therefore, the benefits and the risks involved in enlisting architectural heritage on the UNESCO List should be considered and analysed, as well as the impact, benefits and risks following the enlistment.

In 1994 UNESCO had 304 recognised cultural sites[30], the majority being located in Europe. Since then the analysis criterion and definition of World Heritage have changed in order to better illustrate the full spectrum of cultural and natural treasures. Heritage has begun to be analysed as part of something greater, wider and more complex to define – Cultural Landscape. Architecture, spirituality, creative expression, cultural coexistence and human interaction began being analysed together as part of what we define as cultural treasures and heritage.

The **"Integrated Management Plan"** can be considered as the process of recognising a monument as such, evaluating it, defining a vision and objectives in relation to it as well as actions to be taken, defining responsible bodies and elaborating programs and projects in relation to the monument, monitoring and controlling its evolution. For historic urban landscapes "practice" understood as conservation and restoration methods and technologies can no longer cover the whole process of "dealing with" and an alternative concept appeared covering most of the direct and indirect factors affecting a site, including social, economic, locally cultural, conjectural factors: the "Management". The theory of preserving and maintaining cultural sites could no longer focus on the "practice" but rather on the whole process that involves the architecture monument as well as its context, therefore becoming broader and more complex.

[29] As stated by UNESCO: "Once a country signs the Convention, and has sites inscribed on the World Heritage List, the resulting prestige often helps raise awareness among citizens and governments for heritage preservation. Greater awareness leads to a general rise in the level of the protection and conservation given to heritage properties." http://whc.unesco.org/ last accessed November 2014

[30] UNESCO Global strategy, (available at http://whc.unesco.org/en/globalstrategy/ last accessed March 2014)

In the architectural practice, architects have often found a contradictory approach between creating new buildings and dealing with the existing ones. Although they are both in the realm of architecture, it seems that one extreme defines the need of continuous and radical change, the rapid and accelerated development, while the other defines the desire to keep the valuable unchanged. In an increasingly globalised society where starchitecture[31] establishes the specificity of a place and becomes an urban landmark, it is often difficult to understand that cultural specificity at an urban level – the historic urban landscape- has its own specificity expressed at a different scale that can be disrupted by a radically different contemporary architectural element.

Insertions in protected historic areas are amongst the most difficult interventions as the desire and attraction of the two extreme approaches: John Ruskin's perfect preservation of monuments and the decontextualized star-architecture can create tensions at different levels: in the built environment, in practice, in the architectural guild and within each professional[32]. One might argue that the greater the value of a given heritage element, the greater the need to keep it unchanged, although at an individual level, each creator of architecture is burdened by the temptation of adding a creative, "signature" contemporary layer to the already existing historic value. In today's society the objects considered to have an outstanding exceptional value are usually enlisted on the UNESCO World Heritage List. In this sense the World Heritage Architecture apparently represents the challenge of the desirable "unchanging". The question that arises is whether the "unchanging" is possible or even desirable over a long time span.

Related work

The documentation used is focused on each study case, attempting to pinpoint the particularities and specificity of each case, derived from its individual history and development. Socio-economic factors are also considered in the development of the settlement for their role in terms of specificity.

International charters, manuals and documentation, mainly published by UNESCO or ICCROM, are the starting point for the definition and interpretation of contemporary conservation concepts. Most of the contemporary Charters have built on concepts previously debated in conservation texts now considered 'classics'[33]. These texts, although relevant and briefly referenced in the relevant sections, do not make the object of the present research. The purpose of this thesis is to propose a tool that would provide a better approach to dealing with historic sites, especially wooden historic sites, using internationally established contemporary concepts.

The research is built around the "historic urban landscape" approach, first defined in the 2005 Vienna Memorandum[34]. The approach evolved from several fundamental views on heritage

[31] A blend of "star" and "architecture", the term starchitecture has been used to define large, unusual building projects designed by celebrity architects and meant to become local landmarks. Ponzini, Davide, and Michele Nastasi. 2012. Starchitecture: Scenes, Actors and Spectacles in Contemporary Cities. Turin: Umberto Allemandi.

[32] Referring to John Ruskin's The Seven Lamps of Architecture in contrast to the concept of "Starchitecture" Hornstein, Shelley. 2011. "Starchitecture and Bilbao." In Losing Site: Architecture, Memory and Place, 107–114. Surrey, England: Ashgate Publishing Limited.

[33] Work such as John Ruskin's Seven Lamps of Architecture, William Morris's SPAB Manifesto, Camillo Sitte's The Birth of Modern City Planning.

[34] The Vienna Memorandum. 2005. Available at : http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf last accessed December 2014

first developed 100 -150 years ago, as well as several maturing concepts, addressed to some extent in the present research, including: works of John Ruskin[35], William Morris, Eugène Viollet-le-Duc, Camillo Sitte's interpretation of architecture and urban heritage, Alois Riegl[36] whose work makes the basis of the current theories on heritage conservation, Camillo Boito's approach on the authenticity of monuments, Patrick Geddes' view on the city as an evolving organism, Gustavo Giovannoni's typo-morphological analysis of the urban heritage, Giancarlo de Carlo's take on urban management and citizen participation and consensus, M.R.G. Conzens's view on the city as a historical layering process further refined by Saverio Muratori and Gainfranco Caniggia[37]. Because of its innovative approach to already established concepts, the work of Salvador Muñoz Viñas has also been referenced in the first chapter. The work of Francesco Bandarin, director of UNESCO's World Heritage Centre, has been particularly useful for the development of the thesis and the definition of historic urban landscapes in the Fennoscandian cultural context. Special consideration is given to the concepts of ***genius loci*** and ***intangible heritage***, concepts discussed and elaborated by Patrick Geddes[38] and Christian Norberg-Schulz[39].

For the chapters dedicated to the analysis of Finnish specificity and the redefinition of the "wooden town" the work of Henrik Lilius, Marjut Kirjakka, Riitta Nikula and Pekka Kärki has been of paramount importance.

Town planning documents and procedures generally ensure the protection of Heritage in Finland[40] and are used as the starting point for analysing the protection, conservation and management of Finnish historic urban landscapes. The Land Use and Building Act[41], Act on the Protection of Buildings[42] and the Decree on the State-owned Buildings[43], the Church Act[44], the Antiquities Act[45], Nature Conservation Act[46], road legislations and the Act on the Restrictions to the Export of Cultural Goods[47] provide guidelines and prescriptions on the protection of different type of heritage. The concept of the historic urban landscape is compared throughout the present research with similar concepts employed and considered in *various legislative documents.*

[35] Ruskin, John. 1989. The Seven Lamps of Architecture. London: Dent and Sons.
[36] Riegl, Alois. 1996. "Modern Cult of Monuments: Its Character and Its Origin." In Historical and Philosophical Issues in the Conservation of Cultural Heritage, edited by Nicholas Price, M. Kirby Talley Jr., and Alessandra Melucco-Vaccaro, 69–83. Getty Conservation Institute.
[37] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. John Wiley & Sons. P.28
[38] Idem. p.32
[39] Christian Norberg-Schulz had been influenced by Heidegger's phenomenology and defined the genius loci as an existential space, currently considered under the ***"intangible heritage***" concept.
[40] Museovirasto. Source: http://www.nba.fi/
[41] Land Use and Building Act 132/1999: Maankäyttö- ja rakennuslaki, amendment 222/2003 available at http://www.finlex.fi/en/laki/kaannokset/1999/en19990132.pdf last accessed June 2014
[42] Act on the Protection of the Built Heritage: Laki rakennusperinnön suojelemisesta 498/2010 available on Finlex: http://www.finlex.fi/fi/laki/smur/2010/20100498 last accessed June 2014
[43] The Decree on the State owned Buildings, Asetus valtion rakennusten suojelusta 480/1985 is availavle on Finlex: http://www.finlex.fi/fi/laki/ajantasa/kumotut/1985/19850480 last accessed June 2014
[44] The Church Act, Kirkkolaki 1054/1993 is available on Finlex: http://www.finlex.fi/fi/laki/ajantasa/1993/19931054?search%5Btype%5D=pika&search%5Bpika%5D=kirkkolaki last accessed June 2014
[45] The Antiquities Act, Laki Museovirastosta 282/2004, is available online on Finlex: http://www.finlex.fi/fi/laki/alkup/2004/20040282 last accessed June 2014
[46] The Nature Conservation Act (1096/1996, Finlex) is available on Finlex: http://www.finlex.fi/en/laki/kaannokset/1996/en19961096.pdf last accessed June 2014
[47] the Act on the Restrictions to the Export of Cultural Goods: Laki kulttuuriesineiden maastaviennin rajoittamisesta 115/1999 is available on Finnlex: http://www.finlex.fi/fi/laki/ajantasa/1999/19990115?search%5Btype%5D=pika&search%5Bpika%5D=Kulttuuriesineiden%20maastavienti last accessed June 2014

However, ultimately the protection of heritage is made through planning, where the local museums, environmental authorities and other stakeholders can be involved. The tools employed in Finland are generally operational, their pragmatism leaving little room for ideological dialogue or changes brought about by the international developments in theory. At the forefront of the developments in the protection and conservation of Finnish heritage, the National Board of Antiquities oversees the protection and conservation of the culturally and historically relevant environment, the archaeological culture heritage and architectural heritage, and other cultural property. It acts as repository of cultural and historical national collection, "studies material cultural heritage and both supports and develops the museum field nationally"[48].

Research question and hypothesis

The understanding and protection of Finland's historic areas is significantly influenced by their current understanding and protection as historic urban landscapes. This suggests that, in light of recent developments in the theory of heritage conservation, the understanding and approach to heritage have become broader. The general context of the historic towns has become more relevant, the tangible dimension equally important with the intangible qualities. The broad array of plans and measures taken in order to preserve and enhance existing values and significance no longer refers exclusively to the tangible dimension of heritage and acknowledges that change is inevitable. In light of these developments, the protection tools should also be reassessed to better reflect the new view on historic towns as well as its living, changing qualities. Evaluating, understanding the meanings and significance, protecting existing values in historic towns needs a new tool that would better reveal the qualities of historic urban landscapes and would manage the inevitable changes: non-intervention, conservation, protection, restoration, development. Management plans are operational plans required for all World Heritage Sites but in many cases remain a theoretical tool. Furthermore, management plans are used almost exclusively used for World Heritage Sites. In Finland, historic areas are not currently considered from the historic urban landscape perspective and management plans are not generally used for these sites. The present research aims to answer:

What kind of new tool could:

- *Improve the way historic towns in general are approached, understood and protected from the historic urban landscape perspective in Finland;*
- *Best mediate, mitigate and deal with the inevitable changes*?

The research hypothesis for the present research states that: *management plans can be used in general as a more comprehensive tool that considers the historic urban landscape approach to Finnish wooden historic urban areas. Management plans can integrate most multidisciplinary components such as: conservation, development, revitalization strategies and plans in order to better preserve existing values and control change in Finland's wooden historic urban areas.*

[48] Museovirasto. Source: http://www.nba.fi/

Limitations of the study

The study case selection was limited on several criteria. One was the World Heritage Sites – wooden towns, within the Fennoscandian cultural region. These sites are required to have a management plan, so they could be use as reference. The selection for the Finnish study cases was more difficult. The criteria of selection in this case considered the age value, the proximity and ease of access, the availability of information and similarities to Old Rauma, as it had already been selected as the main study case.

One of the challenges raised by the thesis is to define the historic urban landscapes of Finland encompassing the local understanding and specificity, as well as their position and specificity in the wider cultural area of Fennoscandia. The concept of the "wooden town" that has been used so far as to define the specificity of the historic urban structures of Fennoscandia needs to be refined. The final challenge is to propose a tool that could answer the needs of these historic urban landscapes in terms of "change": conservation, development and tourism. The tool will be verified empirically: an aggregated management plan proposed for the Historic Urban Landscape of Old Rauma.

In ellaborating the management plan, a multidiciplinary team needs to work in close collaboration with the stakeholders. In the case of Old Rauma, the author received valuable feedback and a multitude of information from the inhabitants and representants of various key organisations such as Tammela, Rauma Museum, Rauma city planning department. However, specialists from other fields have not been actively involved in the evaluation work and drafting of the A.M.P., while an active consultation and dialogue between all the various stakeholders has been missing altogether. The present research has been carried out independently from other professionals and research teams and therefore, focuses mainly on architecture and urban structure related issues.

In terms of conservation, the conservation efforts of homeowners and local residents have not been considered for any of the study cases, because the communication platform between stakeholders is missing in all of the sites. Many potential partners in conservation and protection of these sites are currently being overlooked, because the only ones considered are the ones required by law: the National Board of Antiquities or the local town planning office. For Old Rauma some of the potential partners have been identified, but without an active communication platform a real collaboration between all stakeholders and potential partners is still problematic.

Another shortcoming of the research is that the assessment of the tool cannot be made without the implementation stage. The outcome of the AMP can be estimated using risk assessment plans, but whether the objectives of maintaining and enhancing the significance of the whole historic landscape have been reached can only be determined in time.

Although the reliability and validity of the proposal are limited by the expertise of the author, the research manages to outline a holistic approach to dealing with change in Old Rauma seen from the Historic Urban Landscape perspective.

Scope of the study

The city or town as a historic entity is much more complex and intricate than just an ensemble of buildings found in relation to each other. The historic urban landscape approach considers historic areas as complex layered entities with multiple levels of significance attached. The hierarchy and layers of significance are especially important and visible in UNESCO protected sites. Of course, some of the aspects that need to be looked at are outside architecture's domain, but since they ultimately affect the built environment the question raised is whether the architect should get involved.

Once the concept of **"monument" and its "boundary"** are properly defined, one needs to re-define the process of "dealing" with monuments: a process which ultimately affects the physical matter of the monument regardless of the action taken, it is a broader process involving several interwoven components. As such, a management plan has to involve a number of specialists and experts. In relation to architecture the role of the architect in this process needs to be clarified.

Regardless of the monument, but especially in the case of UNESCO protected sites, there is a need to properly define and address potential and actual problems, risks or opportunities that monuments face. Since every monument is a different and peculiar case, it is impossible to elaborate "a recipe", but the approach and method of analysis, the tools for management can be similar for most cases.

In both contemporary architecture practice as well as in the management of historic monuments, the fact remains that each situation is different and each approach must be therefore different and adapted to its particular context. Theory and practice change each other through time and form an unbreakable cycle. The present research intends to follow the cycle of theory – practice – theory using Old Rauma as study case. The questions and needs to be analysed would rise to an overwhelming number without study cases to serve as reference; as such the Nordic World Heritage Wooden Towns and some of the Finnish wooden towns represent references and allow for comparative study while Old Rauma presents itself as the main study case of the work.

Methodology

The definition of the Finnish historic town following the Historic Urban Landscape approach and the elaboration of its associated management tool was carried out following two main directions. The first direction relies on the international documentation and charters mainly published by UNESCO and ICOMOS. The multitude of concepts involved, are studied through qualitative research mainly in Chapter 1. The international consensus on conservation and protection of heritage was considered as a starting point, and only a few selected concepts have been analysed extensively. Information collected during the Fourth International Course on the Conservation of Modern Architecture (MARC 2011)[49] and the International Course on Wood Conservation Technology (ICWCT)[50] is presented as qualitative research throughout the present paper.

[49] Fourth International Course on the Conservation of Modern Architecture (MARC 2011). ICCROM. 28 May - 23 June 2011. Helsinki, Finland. Additional information on https://wiki.tut.fi/MARC2011/WebHome

[50] International Course on Wood Conservation Technology (ICWCT). ICCROM. 23 May – 29 June 2012, Oslo, Norway.

The second direction is based on interpretative and historical research on the presented case studies. Historical analysis, text analysis, field analysis, interviews and questionnaires addressed to the local residents were compiled into a bottom-up analysis of the significance and values of the presented sites. For the historical analysis of the historic towns presented in chapters two, four and six, several archival sources have been used: Rauman museo, Tammela-Rauma, Rauma town planning department, Kristiinankaupunki museum, Kristiinankaupunki town planning department, Tammisaari museum, Porvoo museum and city library, Uusikaupunki town planning department, Uusikaupunki museum of cultural history, Dalarnas museum and archives, The Gammelstad Church Village museum and archives, Røros museum and Røros town planning department, the Riksantikvaren library. The study of several Historic Urban Landscapes of the Fennoscandian region is essential to understanding the specificity of various wooden historic urban landscapes as well as the common threats. The SWOT analysis has been used to analyse values, opportunities and threats for the considered study cases, as well as for the evaluation stage in the structure of the management plan. However, the evaluation stage stresses the importance of "significance" over "values" and underlines that the SWOT analysis has to consider both intrinsic characteristics as well as meanings associated with different heritage objects. The evaluation of significance, values, opportunities, risks and threats for Old Rauma, presented in the final chapter was complemented by both interviews with the chief conservation architect, head of Tammela conservation centre, as well as from a survey based on questionnaires addressed to the local residents. The sample size of the survey is 364, confidence level 95%, margin of error 5%, considering the whole population of Old Rauma at 800. The survey, carried out in February-March 2014, consisted therefore of 364 distributed questionnaires of which 123 were returned. The response rate at the moment of the analysis was 33,8 %. The questionnaires were written in Finnish. Tourists and visitors were not included in this study, which limits the impact and relevance of the results.

Throughout the thesis, the most suitable research methods have been employed for each chapter, including text analysis, field analysis, interviews of professionals, close reading and analysis of historical photographs, maps and plans, questionnaires addressed to local residents.

The structure of the thesis

The present research is divided into seven chapters as follows:

The first chapter – the contemporary theory of conservation, looks at the concept of the Historic Urban Landscape (H.U.L.) as well as at number of related concepts. The concepts are presented in light of today's understanding, primarily using internationally recognised publications. The purpose is not to define a place-specific definition of the term but rather present the general understanding of the concept and other related ideas.

Chapter 2, Nordic World Heritage Wooden Historic Urban Landscapes, deals with the wider context of the Historic Urban Landscape, and comparatively analyses the listed "wooden" Historic Urban Landscapes of the Fennoscandian region. The Church Town of Gammelstad, Luleå, Sweden, The Mining Area of the Great Copper Mountain in Falun, Sweden, the Røros Mining Town and the Circumference in Norway and Old Rauma in Finland are analysed mainly focusing on their specificity, weak points and protection policy. These study cases were analysed in a different group because they represent a different category of heritage, of Outstanding Universal Value and they should provide an example in terms of site management and acknowledgement as H.U.L. As World Heritage Sites, they are required to have and use management plans. However, as it will be shown, the management plan as a tool used for the protection of the historic city viewed as H.U.L is not used in the same manner across the Nordic Countries, nor does it hold the same importance. Therefore the understanding of these sites as Historic Urban Landscapes through the use of management plans is put under questioning.

Chapter 3 deals with Historic Urban Landscapes from a more local perspective: the cultural region of Finland. In establishing the nature of the Historic Urban Landscape in Finland, the concept of the "wooden town" is scrutinized, as well as elements of specificity for Finnish traditional wooden architecture, historic urban planning as well as the contemporary approach to conservation and protection of historic areas. The chapter establishes that significance and specificity of places are more relevant to the understanding of H.U.L. than the value of individual objects or urban components. In terms of management plans, these sites are not legally required to elaborate or use management plans. It remains to be seen if their understanding as historic urban landscapes as well as the preservation of existing values and significance requires managing change, or if protecting tangible cultural values is sufficient. For the "wooden towns" the building material is analysed as both an element of specificity as well as the material that renders building components unique. The material itself as well as its traditional use are analysed in an attempt to establish whether wood through its properties can make individual components unique and irreplaceable. This impacts the attitude toward the conservation and protection of historic wooden architecture and directly affects the site understood as H.U.L., as well as its associated management plan.

In chapter 4, the idea of specificity and rarity are taken a step forward, looking at the nature of wood in Finland's Historic Urban Landscapes through selected study cases. Several study cases are presented, attempting to highlight the elements of significance and threats that are overlooked in the traditional protection plans: in town planning. This section also strives to clarify whether there are common problems, weaknesses and threats to the understanding and

protection of H.U.L in Finland. The selected study cases include: Old Rauma, Old Porvoo, the historic areas of Tammisaari, Uusikaupunki and Kristiinankaupunki. In order to better understand the sites from a historic urban landscape perspective, it is necessary to question the issues of "value" and "significance". The issue of the World Heritage nomination and the benefits of a serial nomination are also open for debate, discussing amongst others the rivalry between Porvoo and Old Rauma in terms of World Heritage Nomination. Although some notions from this chapter might be known to specialists on Finnish specificity, the elaborated argumentation targets a wider audience of international specialists.

Chapter 5 nominates and discusses the structure of a management plan that could encompass the Historic Urban Landscape approach. The multidisciplinary approaches, as well as a number of issues exceeding the field of architecture and urban planning are proposed, although the focus tends to be maintained on the fields of architecture and urbanism. The innovative concept of the Aggregated Management Plan is developed, and several existing models proposed in The Nordic Countries for heritage management are presented.

In chapter 6, a potential Aggregated Management Plan is formulated for Old Rauma, touching on as many aspects as are needed for the understanding of the site and its protection as a Historic Urban Landscape.

Contributions

The present research develops the following original contributions:

1. Redefines the "wooden towns" of Finland following the Historic Urban Landscape approach, integrating their understanding in a wider cultural context and reconsidering the significance of wooden architecture.
2. Establishes the structure of an aggregated management plan considering the multidisciplinary approach of the Historic Urban Landscape.
3. Proposes an aggregated management plan for Old Rauma, while identifying potential threats brought about by the present conservation and development strategies.

CHAPTER1: CONCEPTS RELATED TO MANAGING CHANGE FOR H.U.L.

"The management of the historic environment is [therefore] the management of change."[51]

Figure 1. Diagram of concepts and their interdependence

The concepts fundamental for the present research are directly related to the three core concepts: "Historic Urban Landscape", "Management" and "Change". Although the thesis focuses primarily on management plans of the historic urban landscapes, it is important to clarify the contemporary meaning and the origin of several concepts that the management plans generally rely on. In terms of the present paper it is important to underline that dealing with heritage no longer refers to the act of preservation of historic substance, but is a more complex process, on multiple levels. The act of interpreting value and significance, fundamental for the management process, as well as the subtle nuances in our definition of heritage have been changing over the past decades.

The 19th century[52] has been a turning point for understanding and defining historic monuments, but also for urban planning. Urban morphology, the definition of the monument, its typology and need for protection, the historic areas, have come into focus and have begun being thoroughly studied beginning with the 19th century, arguably after the Enlightenment Era[53]. The significance of most monuments, viewed according to their historic timeline, predates their acknowledgement as such. In most cases it means that they have been allowed to change, evolve and develop for hundreds of years before being acknowledged and protected as monuments.

[51] "Managing Cultural World Heritage." 2013. UNESCO World Heritage Centre. Paris. p.28
[52] Refering to both the industrialized cities of the 19th century as well as to Lewis Mumford's city of the 'capitalism'. Mumford, Lewis. 1968. The City in History: Its Origins, Its Transformations, and Its Prospects. Mariner Books. p. 468
[53] Burayidi, Michael A., ed. 2000. Urban Planning in a Multicultural Society. Westport: Praeger Publishers. P.2

The present chapter defines the main concepts around which the research is built, mainly the historic urban landscape (H.U.L.) defined and understood in a Nordic cultural context and the management plan defined as a tool used to control change. There are a number or underlying concepts that are also discussed. Concepts that affect the way H.U.L. and management are defined and tackled, concepts such as heritage, intangible values, layers of significance, authenticity and integrity, change and preservation. The city as heritage, its tools for development, for the conservation of its values, for the protection of the significant are also discussed in the present chapter, in light of the international charters and publications compiled by UNESCO and other international bodies.

The Historic Urban Landscape (H.U.L)

The Historic Urban Landscape (H.U.L.) approach, as defined by the Vienna Memorandum[54] is characterized by layers of significance. The Historic Urban Landscape is one of the crucial concepts of the present research, since it defines the urban entities in a constant change process. Although the "historic urban landscape" or H.U.L was mentioned in the 2005 Vienna Memorandum, its development and refinement took several years[55].

The understanding of the concept of "historic urban landscape" is built following the apparition and evolution of other previous underlying concepts, such as heritage followed by the definition of city as heritage, cultural landscape or intangible values.

The shifts in the attitude toward heritage conservation can be considered through the following change: the weight initially placed in the intrinsic values of an object or place is replaced by the weight given to the significance held by heritage. "Having at one time referred exclusively to the monumental remains of cultures, heritage as a concept has gradually come to include new categories such as the intangible, ethnographic or industrial heritage."[56] The meaning of built heritage has varied from individual monuments and buildings to sites gathering a multitude of buildings often considered with little regard to their surroundings. In theory, at least in the last 50 years, the meaning and definition of heritage had been broadened to include "the whole environment that has been affected by its interaction with humanity and is therefore capable of being recognized as heritage."[57] Not only the meaning of heritage has expanded to include archaeological sites, industrial heritage, cultural landscapes, heritage routes or urban centres, but the definition and acknowledgement of their significance has changed incorporating all forms of interaction between Man and Environment.

The Historic Urban Landscapes are no longer defining the static physical manifestations of human life in urban centres, but rather the **dynamic processes** of human life itself found in an ever changing state. Accurately defining heritage, its significance and its relations with the surrounding environment and the communities, affects the way in which threats and impact of development are being understood. Just like Lorenz's butterfly effect[58], through cumulative effect

[54] Vienna Memorandum on "World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape". UNESCO. 2005. Available at http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf last accessed June 2014
[55] Until 2011 when the UNESCO recommendation on the Historic Urban Landscape (HUL) were published. UNESCO recommendation on the Historic Urban Landscape (HUL) UNESCO. 2011. Activity 47-21
[56] "Cultural Heritage." 2007. UNESCO. http://portal.unesco.org/culture/en/ev.php-URL_ID=2185&URL_DO=DO_TOPIC&URL_SECTION=201.html. Last accessed November 2013.
[57] "Managing Cultural World Heritage." 2013. UNESCO World Heritage Centre. Paris. p.12
[58] Lorenz, Edward N. (March 1963). "Deterministic Nonperiodic Flow". Journal of the Atmospheric Sciences 20 (2): 130–

a seemingly minor intervention, far from the protected area itself, can have a much greater impact than initially anticipated. It has been understood that attempting to treat and preserve heritage in isolation, as a museum piece is detrimental to both the built fabric as well as for the long term development of the area. Experience has shown that for historic areas and heritage in general, a sustainable conservation and protection plan considers development activities, the social changes and community shifts, the stakeholders and their interaction with the site. The social, the cultural and economic are usually indissolubly connected, and should be addressed as such in the management and development plans. When the historic city is viewed as heritage it possesses a cumulative cultural, social, material, financial significance and is no longer just an 'inherited' place. In terms of developments in the interpretation of heritage, contemporary theories stress the importance of continuity in the understanding of the historical timeline of the heritage entity, which may be an element, object, building, architectural ensemble, city area, entire city. Growth, stagnation, decline and regeneration, together with the social dimension and community dynamics are equally relevant for the interpretation of this type of heritage. The shift in focus has been made between heritage as a physical presence, to heritage viewed and defined as a process.

The intangible heritage is a fundamental characteristic of human existence. Whether we consider specific traditions, cooking, dances, occupations, processes associated to human life in general, there is an intangible component associated to a tangible output. For buildings it has been generally agreed that the output -the building itself- is indissolubly related to the building techniques and craftsmanship. Although we are generally left with the by-product of an activity and it is this product that we value, we also acknowledge the value of the creation process. The official, international recognition of the "intangible heritage" as a concept did not happen until 2003[59] and was adopted in Finland in 2013[60]. From that point onward it changed the way heritage was being viewed.

As previously stated, one of the crucial aspects of the living heritage is the need for continuity. Whether we are referring to the built environment, to traditions, to living cultures and lifestyles, traditions in cities or landmarks, they all need continuity as well as acceptance of change.

One of the pursuits of the Vienna Memorandum in 2005 was to take urban heritage outside the crisis area urban planning finds itself in today-crisis produced by bureaucratization[61]. Emphasizing change as an essential part of the urban planning process, acknowledging the need to create new heritage is another change in conservation views. The historic urban landscape is not only an urban set needing to be preserved, but a dynamic area needing to be changed and developed through sensitive design.

The physical dimension of the cultural landscape has been discussed[62], and the common reoccurring feature seems to be the need for the user to experience it "within the cultural framework of those who have created and sustained them." The tangible and intangible uniquely come together in one place, defining the "*genius loci*". Only thorough first-hand experience can the viewer fully understand the significance and values of the place. Analysis through observation,

141. Available online at http://www.astro.puc.cl/~rparra/tools/PAPERS/lorenz1962.pdf last accessed May 2014.
[59] Convention for the Safeguarding of the Intangible Cultural Heritage. UNESCO 2003
[60] Kanerva, Anna, and Ritva Mitchell. 2015. "Elävä Aineeton Kulttuuriperintö."p. 22
[61] Gabrielli, Bruno. Urban planning challenged by historic urban landscape. UNESCO World Heritage Papers 27. 2010. p.20
[62] Rodwell, Dennis; Historic urban landscapes; Managing Historic Cities. UNESCO World Heritage Papers 27. 2010

deciphering the cultural and historic landscape only through the tangibles perceived today, would create a distorted understanding. The cultural and historic landscapes are defined and properly understood only when acknowledging its three-fold historic timeline together with its dual tangible and intangible characteristics. The moment of creation, evolution and present day analysis are equally relevant.

Urban conservation is a relatively new field of study by comparison with building conservation, "an idea of modern times developed in the aftermath of the French Revolution when a new social and economic order in Europe was emerging in the 19th century"[63], while the heritage category of the historic city emerged later at the end of the 19th – beginning of the 20th century[64].

The definition of heritage becomes therefore particularly interesting when considering historic cities. **Cultural heritage**[65] is comprised of either monument, groups of buildings – separated or connected-, sites which include the combined works of man and nature. The city as heritage, town planning and urban conservation are relatively new, by comparison with the concept of monument, its roots traced back to the 19th century[66]. **Historic cities** and quarters are considered sites[67]. However, a distinction has to be made between historic **living** cities and historic cities depleted of contemporary usage. Continuity in use and typology of functions, functional diversity as well as a continuous 24 hour life cycle of the area differentiates the **historic area** from the **living historic city**. Central business areas with a high historic value but which 'are alive' only during working hours, or cities in which the tourism industry is prevalent in the detriment of every day functions such as the case of certain areas of Venice, are more museums for the historic layers.

Historic cities can be seen as the most complete and certainly the most tangible incarnation of culture[68], characterized by continuous and dynamic processes. The values and quantifiable characteristics of the city result from understanding and recognising the city as a process and network of hierarchic connections. Most European cities in the contemporary society, however, base their identity on the hard historic nucleus at their core, regardless of how functional or well connected with the rest of the city it might be. In the era of globalization and profitable exploitation of available resources, very few modern cities or quarters managed to produce similar atmosphere and emotional qualities needed for human attachment to those produced by historic areas. Sometimes nostalgia for the past and the need to identify traditional values is what allows users to better bond with historic areas. Coming back to the gradual and slow maturation of historic quarters, it can be argued that the connections established between

[63] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p.2
[64] Idem p.6 The same author further notes that conservation of the historic city became a subject for planners and architects in the second half of the 20th century, first in Europe and later in other regions.
[65] "Recommendation Concerning the Protection, at National Level, of the Cultural and Natural Heritage." In The General Conference of the United Nations Educational, Scientific and Cultural Organization. Paris: UNESCO. http://unesdoc.unesco.org/images/0011/001140/114044e.pdf.
[66] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley.p.11
[67] "Recommendation Concerning the Protection, at National Level, of the Cultural and Natural Heritage." In The General Conference of the United Nations Educational, Scientific and Cultural Organization. Paris: UNESCO. http://unesdoc.unesco.org/images/0011/001140/114044e.pdf.
[68] Bianca, Stefano; Historic cities in the 21st century: core values for a globalizing world; Managing cities and the historic urban landscape initiative. UNESCO World Heritage Papers 27. 2010. P. 11

users of historic areas and the spaces are based on the traditions and residual collective memory attached to the areas. The layers of significance resulted from the gradual development cannot and should not be replaced by contemporary layers, although they can be enriched by change. The core values of historic cities, especially the intangible ones, are difficult to scientifically preserve as they cannot be isolated form their context, nor can they be stored or taken outside the flow of time[69]. Intangible values can be recorded, can be continuously nurtured and reborn, but they cannot be contained. Their transitory nature makes them very susceptible to change and particularly vulnerable to external influences, which makes them one of the most delicate characteristics of the **living** city.

The protection of the city as heritage has its origins in the acknowledgement of the value of groups of buildings: the value of the ensemble is often higher than the cumulative value of its components. Although urban conservation is the idea of modern times when a new social and economic order in Europe was emerging in the 19th century, "the historic city as a heritage category in the modern sense was defined much later, towards the end of the 19th century and in the first half of the 20th century"[70]. Groups of buildings were defined internationally in 1954 starting with the Hague Convention. The concept of the ensemble or **group of buildings** as heritage had been subsequently refined[71] in the 1972 Recommendation concerning the protection, at National level of the cultural and natural heritage[72], 1975 European Charter of Architectural Heritage[73], 1985 Convention for the Protection of Architectural Heritage of Europe[74]. **Historic areas** were defined and acknowledged in the 1976 *"Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas"*[75]. Therefore, by 1976 the value of intangible traits associated to historic sites started being considered, such as traditional activities and human activities –the life of the city-.

The **historic area** differs from the **historic town (or historic urban areas)**[76] in terms of the concept's span: a historic area includes both rural and urban areas as well as prehistoric and other archaeological sites. All components of the historic area, including the open spaces, streets alongside the buildings are considered equally valuable. The historic areas therefore include historic towns, historic urban quarters, prehistoric sites, together with the man-made environment that influences the dynamic of the area: they consider the historical area in their integrity and relation with their environment. The historic towns according to the definition do not necessarily need to include contemporary "living" areas: they can be uninhabited and still retain their qualities as towns. In the 1960s, and officially in international documents starting with

[69] Kanerva, Anna, and Ritva Mitchell. 2015. "Elävä Aineeton Kulttuuriperintö." P.25
[70] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p 6
[71] Jokilehto, Jukka. "On Definitions of Cultural Heritage." E-ICOMOS ICLAFI Journal (First Issue). http://siteresources.worldbank.org/INTCHD/Resources/articleJukkaJokilehto.pdf. p.14
[72] Available at http://unesdoc.unesco.org/images/0011/001140/114044e.pdf pages 145 - 158. Last accessed March 2014
[73] The document refers to the importance of groups of buildings as heritage; Art 1. The concept of urban heritage and its connection to social values are also discussed in this document Art4, available at http://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/170-european-charter-of-the-architectural-heritage
[74] Convention for the Protection of the Architectural Heritage of Europe. Granada. 1985. Available at http://conventions.coe.int/Treaty/en/Treaties/Html/121.htm (last accessed March 2014)
[75] Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas. UNESCO. Nairobi. 1976 available at http://unesdoc.unesco.org/images/0011/001140/114038e.pdf Last accessed November 2013
[76] Washington Charter for the Conservation of Historic Towns and Urban Areas. 1987.

the 1987 "First Brazilian seminar about the Preservation and Revitalization of Historic Centres"[77] the city started to be viewed as a whole, a historical entity formed gradually around a –usually- functional centre that holds most of the significant layers of development specific for the settlement. The **historic centre** of the city was often considered the most relevant and valuable area from a cultural perspective, the most significant area. Conceptually, the **historic centres** cumulating the most layers of significance are often part of the **historic towns** and contained within a larger **historic area**, all relevant from a cultural perspective. The **historic centres** also have functional contemporary value, therefore are part of living, inhabited cities.

In the Nordic countries, especially Fennoscandia, the issue is much more complex, since the definition of the city does not conform to the quantitative indicators employed in the rest of Europe. The "city" quality becomes an administrative and economic status used to control the economic and functional development of the settlement and only indirectly its urban physical structure. The differentiation between "town" and "city" is virtually non-existent as the urban settlements are generally affected by different factors than in the rest of Europe. The urban tradition has in the Fennoscandian region a different dimension and development trajectory than the rest of Europe, adding to its specificity, as it will be seen in the further chapters. In Finland, the large culturally relevant sites are generally the historic centres or historic towns, bearing both rural and urban traits, and the phenomenon of the historic town caught inside the development web of the contemporary city is often physically recognizable and easy to experience.

The concept of Cultural Landscape started being used officially on the international scene and in international documents relatively late compared to the origin of the concepts: landscape[78] can be traced back to the 16th century Dutch painting, while cultural landscape was used as such since the 19th century[79]. Cultural landscape as heritage needing protection was officially defined in the Deschambault Declaration[80] soon after becoming a current concept of the international vocabulary. The concept of the "Cultural Landscape" per se, was, as mentioned, first coined in 1992 under the UNESCO Operational Guidelines; for urban environments the concept was expanded and refined in later publications, especially in the Vienna Memorandum in 2005.

The main difference between the cultural landscape and a historic area is that the cultural landscapes include natural elements that are relevant, influence or impact the man-made cultural areas. Cultural landscapes illustrate the evolution of human society and can include natural places of worship or natural **sites** of social or cultural value. These **sites** were a new type of cultural heritage, acknowledged by UNESCO in international documents starting with 1992[81]. The mountains in Japan or the forests and lakes in Finland have a deeper spiritual meaning for the traditional societies and as such are integrated and should be recognized as part of the culturally relevant sites.

[77] First Brazilian seminar about the Preservation and Revitalization of Historic Centres. ICOMOS. Brazilian Committee. Itaipava. July 1987. Available at http://www.icomos.org/en/charters-and-other-doctrinal-texts/179-articles-en-francais/ressources/charters-and-standards/194-first-brazilian-seminar-about-the-preservation-and-revitalization-of-historic-centers-itaipava
[78] Landscape from from *land* + *-schap* –ship, first known use: 1598. In Merriam-Webster.com. Retrieved March 8, 2014, from http://www.merriam-webster.com/dictionary/landscape
[79] Jokilehto, Jukka. "On Definitions of Cultural Heritage." *E-ICOMOS ICLAFI Journal* (First Issue). http://siteresources.worldbank.org/INTCHD/Resources/articleJukkaJokilehto.pdf. P.17
[80] Charter for the Preservation of Quebec's Heritage. 1982. Available at http://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charters-and-standards/192-the-deschambault-charter
[81] http://whc.unesco.org/en/culturallandscape/#1

It can be argued, depending on the definition of cultural landscape, that the condition for the cultural landscape is **its integrity, and not its authenticity**. This is because the cultural landscape is found in a continuous transformation and evolution process, which makes the definition of its state of authenticity particularly difficult. Unless the place had been subject to willing and purposeful falsification – its intended role is that of a "copy", most cultural landscapes evolve and change in a unique way, indissolubly linked to their context. In this situation cultural landscape refers to the environment surrounding the core of significance - the monument or historic area. For the cultural area around the Japanese holy mountain Fujisan, listed in 2013[82], it is clear that the natural context contributes to the way the historic areas function and are perceived.

Cultural landscapes, as opposed to the **natural landscapes**, have meaning and "testify to the creative genius, social development and the imaginative and spiritual vitality of humanity"[83]: they include cultivated land, gardens, sacred places, all sites of interaction between man and the environment. The cultural landscape is therefore a system of culturally relevant components articulated and interdependent. However, there is a considerable difference in approach, definition, identification and protection tools between a garden or parkland landscapes and urban areas, historic towns viewed from the holistic perspective of a landscape. In 2003, in the 27th session of the World Heritage Committee the need of dealing with historic urban environments in a holistic manner was first addressed[84]. The impact of new developments on the value of historic areas needed to be discussed: the impact of high-rise structures, new infrastructure, and changes of the urban fabric needing to be contained, considered and analysed in an articulated manner. The character and identity of the historic areas were affected by processes and actions implemented outside the border of the protected area, and as such new concepts and tools were needed.

According to Francesco Bandarin and Ron van Oers the **historic urban landscape** considers the historic towns as comprehensive systems "marked by historical, geomorphologic and social relationships with its setting and its environment, and characterized by a complex layering of meanings and expressions, as opposed to the view shared before, defining **historic urban areas** as a 'sum' of monuments and urban fabric."[85] The object of study is the same; however, the approach and output of any analysis are bound to be fundamentally different. Unlike the previous approach where from a conservation perspective historic towns could be equally inhabited or not, the **historic urban landscape** is a place of contemporary urban life and activity and is characterized by its users and traditional communities. However, the historic urban landscape usually extends far beyond the limit of the centre, containing all elements that influence or are connected to the cultural urban area. The extent of the H.U.L. can go far beyond the limits of the urban area, and can contain tangible and intangible elements, the architecture, urban patterns, natural elements, people, traditions, languages, local food, lifestyles both present and past, beliefs and behavioural patterns. The H.U.L. includes its broader urban context, its

[82] Fujisan, sacred place and source of artistic inspiration: http://whc.unesco.org/en/list/1418/
[83] http://whc.unesco.org/en/culturallandscape/#1
[84] Sirisrisak, T.,2007, Historic Urban Landscape:interpretation and Presentation of the Image of the City, Paper presented in ICOMOS Thailand International Symposium 2007: Interpretation: From Monument to Living Heritage, 1-3 November 2007.
[85] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p.63

geographic setting, layers of history and significance that need to be "revealed and celebrated"[86]. For a more objective analysis, H.U.L. can be analysed integrating its distinguishable tangible and intangible characteristics[87]: architecture, skyline, urban circulation spaces and patterns, views and sceneries, scale, decoration, vegetation on one side and the functions, languages and names, traditions and social events, local history and stories, lifestyles, food, local beliefs and wisdom on the other. What should be remembered is that all these components link the social, economic, historical, urban aspects of the place into one, giving a notion of Cesare Brandi's "unità potenziale"[88] or Christian Norberg Schulz's "*genius loci*"[89].

It is debatable whether it represents an additional category[90] or an approach[91] because the limits of the 'area of influence' of buffer zone are different and the outcome of the conservation policies is likely to be different from that of previous approaches. However, the object of study is still the city - the historic urban area, approached from a different angle. Most authors[92] that claim that a Historic Urban Landscape can still be defined as a urban historic area or site , at least in terms of physical components, however different the approach to its analysis and conservation may be. Since the object of study remains the same, while the approach to it changes, H.U.L. can be regarded as a tool for the interpretation and assessment of urban historic areas.

At the same time the economic and the environmental dimension of the contemporary life are considered an integral part of the Historic Urban Landscape. The approach goes beyond the borders of time, looking at places in the process of their becoming, looking at patterns of transformation, at what has been and how it transformed into what we experience today. If the heritage = monument could be regarded as a significant and valuable object, the historic urban landscape can be regarded as a significant and valuable process with physical manifestations that we can experience and analyse today. The Historic Urban Landscape also looks at the cultural properties – elements containing value but not necessarily heritage, in their interaction with existing heritage. In this understanding of the concept, it is interesting to point out that the qualities and traits of the place cannot be revealed at once. Understanding and "reading" the H.U.L. can be done spatially in sequences, and in terms of meanings and significance through an intimate experience of the place – in other words deciphering the landscape continuum of H.U.L, spatially as well as historically and philosophically, requires time.

Cultural and historic landscapes are defined by interlinked tangible and intangible characteristics, within their natural or man-made context, and whose values and understanding are time dependent. The contemporary functional value is, however, not a pre-requisite of a

[86] UNESCO recommendation on the Historic Urban Landscape (HUL). UNESCO. 2011. Activity 47-21 p.3
[87] Sirisrisak, T., 2007, Historic Urban Landscape: Interpretation and presentation of the Image of the City, Paper presented in ICOMOS Thailand International Symposium 2007: Interpretation: From Monument to Living Heritage, 1-3 November 2007. P. 5-7
[88] Brandi, Cesare. 2000. Teoria Del Restauro. Einaudi, The Potential Oneness of a Work of Art.: unità potenziale or potential oneness of the work of art refers to the completeness in significance of the work of art, a whole which surpasses the sum of its parts.
[89] Norberg-Schulz, Christian. 1991. Genius Loci, Towards a Phenomenology of Architecture. New York: Rizzoli. (available at http://database.emrearolat.com/wp-content/uploads/2011/07/Genius-Loci-Towards-a-Phenomenology-of-Architecture.PART1_.pdf. last accessed July 2014)
[90] Whitehand, J.W.R; Gu,Kai. Conserving Urban Landscape Heritage: a Geographical Approach. Beijing Forum 2007.
[91] Calabi, Lodovico Folin. The Shistoric Urban Landscape Approach. Presentation at the 4th Baltic Sea Reguin Cultural Heritage Forum. 2010. Riga
[92] Jokilehto, J. 2010. Notes on the Definition and Safeguarding of HUL. City & Time 4 (3): 4. [online] url: http://www.ct.ceci-br.org; Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p.73

historic landscape. The Ancient Villages of Northern Syria can be considered cultural landscapes but their understanding as historic urban landscapes is hindered because of their lacking contemporary use values. H.U.L. is an approach better suited for living historic areas seen as dynamic heritage, whereas in the case of the Syrian dead cities the object of study is more likely a large-scale open air museum. Loss of traditional functions under development and tourism pressures are challenging the historic urban landscapes all over the world, while the planning and legislative tools are not always able to counter-balance these pressures[93].

The issues currently associated by UNESCO[94] to Historic Urban Landscapes relate to preserving the identity and visual integrity of the significant places in their broader settings, address issues such as rapid urbanization, exponential growth, urban shrinkage as a result of economic processes or migration patterns, loss of the sense of place and identity of communities, control of urban development in relation to significant historic places, control of the intensity and speed of changes –or impact of change-, control of the resource consumption, sustainability. Integrity in a socio-functional, structural, historical and visual sense is essential for the Historic Urban Landscape[95] and therefore the urban continuum and coherence are considered fundamental traits.

Image 1. The cultural landscape of Røros Mining Town and the Circumference. Picture: Anca Dumitrescu 2012
Image 2. The cultural landscape of the Ancient Villages of Northern Syria. Picture: Anca Dumitrescu 2008

The new approach to historic places stresses some differences in terms of value assessment, evaluation of meanings, in terms of conservation and protection –it redefines the entire framework of analysis and intervention employed so far. In terms of value assessment, the focus is placed on the significance of the "**living heritage**" as a "**social complex**" rather than on the physical values of a "**monument**". This also suggests that elements of value are in this case more subjective in nature and depend to a greater extent on the meanings users and traditional

[93] UNESCO recommendation on the Historic Urban Landscape (HUL). UNESCO. 2011. Activity 47-21 (Available at http://whc.unesco.org/en/activities/638 last accessed March 2014)
[94] Idem p.3
[95] Jokilehto, J. 2010. Notes on the Definition and Safeguarding of HUL. City & Time 4 (3): 4. [online] url: http://www.ct.ceci-br.org.

communities associate to the place. Social changes and evolution of social structures becomes more relevant in relation to the transformation of a place. Another element differentiating H.U.L. to previous interpretations of significant urban entities is the need to provide understanding in layers: H.U.L. is essentially a socio-urban entity of significance layered on various levels, the historic and cultural level being only one of them. The understanding and legibility of H.U.L. is therefore related to the ability of the professional to understand and then choose to present the significant layers in relation to the objective. In the context of the present research the objective is the preservation of cultural values. In terms of intervention, the management of change has been considered a potential tool to define the "role of contemporary architecture and contemporary creation in historic places, […] to respect a continuum frequently disregarded or misunderstood."[96] The management of change considers the social and economic component of the H.U.L. but attempts to analyse processes and evaluate places in their continuity.

The tools needed to control conservation and development in H.U.L., will need to consider the social dimension, to involve the stakeholders. There is a significant difference between the values of place as perceived by the users and the intrinsic values of the place which are usually uncovered by archaeological studies and historic analysis. The management of change therefore is far from dealing solely with "conservation" of tangible heritage – it is a tool that attempts to maintain valued characteristics and minimize conflicts and threats in a living, dynamic, evolving urban entity.

The social dimension, global population growth, migration as well as tourism exert an unprecedented pressure on the historic urban environment. There are increasing demands on the contemporary comforts the urban environment needs to provide while preserving the authenticity and legibility of the historically significant places. Modernization, retrofitting and conservation often fall into disagreement depending on the user of a place.

Management

Management[97] in the context of this paper comes as an answer to what "dealing with Historic Urban Landscapes" means. Since the H.U.L. itself is defining process, an attitude rather than a distinct category, dealing with it can mean a multitude of things, having as an end result preserving and enhancing present values for the future. Conservation for this living, dynamic environment is no longer sufficient and the development of the place needs to be also considered. As such integrated conservation and integrated development are interlinked processes aiming at preserving and enhancing the positive traits and values of the place. According to Jukka Jokilehto, development in this situation refers to "the progress improving the quality of the place and aiming at a better quality of life. […] unveiling the potential (cultural, social, economic), and bringing forth something that continues to retain its qualities and significance"[98].

The management of historic areas is the process that ensures the continuity of values of the protected monument. Managing and restoring a monument does not mean taking it outside its timeline or preserving it as according to a reference image, but rather it implies ensuring the

[96] Ibid.
[97] The idea of the management plan for heritage sites will be further elaborated considering the contemporary practice in chapter 6: The Aggregated Management Plan
[98] Jokilehto, J. 2010. Notes on the Definition and Safeguarding of HUL. City & Time 4 (3): 4. [online] url: http://www.ct.ceci-br.org. p. 42

continuity in life and maintenance of its values for future generations. There is a degree of acceptable change from the point of view of the present: change is acknowledges as part of the process and it takes place inevitably, as change means passing of time. **Town planning** can prove in some cases the most effective tool for protection. This is especially true for valuable buildings that are not listed or nominated for protection. The town plan and management plan are the first instruments of conservation.

The "dealing with" or "management process" based on a S.W.O.T. methodology and structure has 6 main steps, as will be shown in Chapter 5. These five steps are: the description of H.U.L, the assessment of value and significance, the risk assessment, the development of strategies and plans for controlling change, the budgeting and the review and refinement. There are elements pertaining to each of these steps, which should be reviewed and re-defined from the current perspective on H.U.L. For example in the description phase, it is important to define the range of the H.U.L and in that to limit its reach and therefore the concepts "buffer zone" and "fringe zone" become relevant. For the assessment of value and significance several concepts are essential such as: "interpretation", "significance", "layers of significance", "authenticity", "integrity", "identity", "genius loci", "stakeholders", "awareness". For the third step, risk assessment, the definition of "damage", "gentrification", "moral wear" or "impact assessment" become relevant. The final stage reviews and refines the approach to H.U.L. by critically analysing the outcome of the implementation stage.

When managing cities – dealing with urban historic heritage – the traditional scientific approach to conservation is no longer effective, since preserving and maintaining existing values goes beyond the tangible cultural heritage. Multidisciplinary, holistic approaches are essential. Francesco Bandarin notes that "urban heritage conservation has become a moving target, to which a static, monumental approach as inherited from the previous century is wholly inadequate, or may become perhaps downright destructive."[99] Therefore the static, monumental approach to the city generally present in town planning is no longer in line with the contemporary views on the historic city and its needs.

It often happens that that instruments not specifically conservation-orientated have a great impact on the development and conservation of historic areas. A holistic approach can allow the planers to observe and chose the actions that can best serve the management objectives. In Old Rauma the customs gates had a huge effect on the growth and development of the city, although it was an economic, not an urban tool. In Haussmann's Paris, strict regulations, land-use and building restrictions, helped devise the endurance functional and architectural structure of the city's centre. Socio-economic restrictions or exemptions can be considered important tools in heritage conservation.

Heritage excludes the contemporary by definition. Monuments relate to memory and identity of the site, they stress the significance and meaning but not the functional and structural value of an element within a community or site. The management plan seeks to acknowledge and protect all values of a site, regardless of their age and therefore cannot refer only to heritage. This is one of the advantages management plans hold over traditional conservation and protection policies – they can and must take into account the values added by contemporary layers of the city.

[99] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p.111

The management of change -which includes conservation, development, protection, corrective measures for identified threats- for wooden historic urban landscapes starts with the definition of the characteristics and significance associated to the Historic Urban Landscape. This implies the identification and emphasis of the significance of the place. Another differentiating characteristic of the H.U.L. which changes the approach to its conservation is the acknowledged importance of the intangibles and most importantly of the local population. Therefore the management plans need to acknowledge the role of these components, ensure their safeguarding, as well as the empowerment and informed involvement of the users. Finding the specificity of the place, the "*genius loci"* is rooted in the context of the place, in the larger environment, in the people that use and shape the place. "The way the place develops is generally dependent on the environment that forms its setting, including the geology and available materials, location in plain or in mountain region, as well as its relation to potential routes of communication."[100] This is particularly true for the wooden towns of the North, as the setting, geology and available materials influence the "*genius loci"* of these Historic Urban Landscapes.

The **aggregated management plan (A.M.P.)** is the tool proposed to best answer needs of the Historic Urban Landscapes in terms of "dealing with". Although management plans have been generally elaborated as fundamental tools for the conservation of historic sites, they remain in some cases as mainly theoretical or in any case not operational. The aggregated management plan aims to become an operational tool by scrutinizing and answering the needs of the site and its users. It tackles issues such as conservation, development, tourism from the perspective of the user and considering all stakeholders. It retains the structure of a classic management plan, with the ability to be condensed or expanded according to the needs of the site through addition or aggregation. The aim of the A.M.P. is to correlate components developed separately into one comprehensive document, dealing with tangible as well as intangible aspects in a coherent manner by corroborating information from different fields of expertise. The tool and its particularities will be further elaborated in chapter 5.

Buffer Zones

Defining the buffer zone is relevant for the description of the historic urban landscape. As a concept, the buffer zone appeared in France in 1910s-1930s[101], and was at first used for the areas that influenced the historic monument, or which added to the coherence of the space around it. The 500 m conventional protection area around a historic monument was adopted by law in 1913. In the international heritage protection documentation, the concept of "buffer zone" appeared in 1977, in the Operational Guidelines for the Implementation of the World Heritage Convention, and its delimitation became common practice since 1979. The Operational Guidelines used by UNESCO advise using the wider concept of **"area of influence"** in cases where the buffer zone becomes too extensive –for most H.U.L. The distant views from the property or toward the property often contribute to the definition of the area of influence. In sites where the vertical

[100] Jokilehto, J. 2010. Notes on the Definition and Safeguarding of HUL. City & Time 4 (3): 4. [online] url: http://www.ct.ceci-br.org p. 48

[101] The date of the first mention of the concept of "buffer zone" is considered 1913, although the concept is further elaborated and used in different contexts until the 1930s when a more general definition was agreed upon.Duche, Daniel; From individual structures to historic urban landscape management- the French experience UNESCO World Heritage Papers 27. 2010. P.94

accents are present, it is important to maintain the historical vertical dominant free of unwanted competitors. Just as values vary in time, so does the definition of the buffer zones and boundaries.

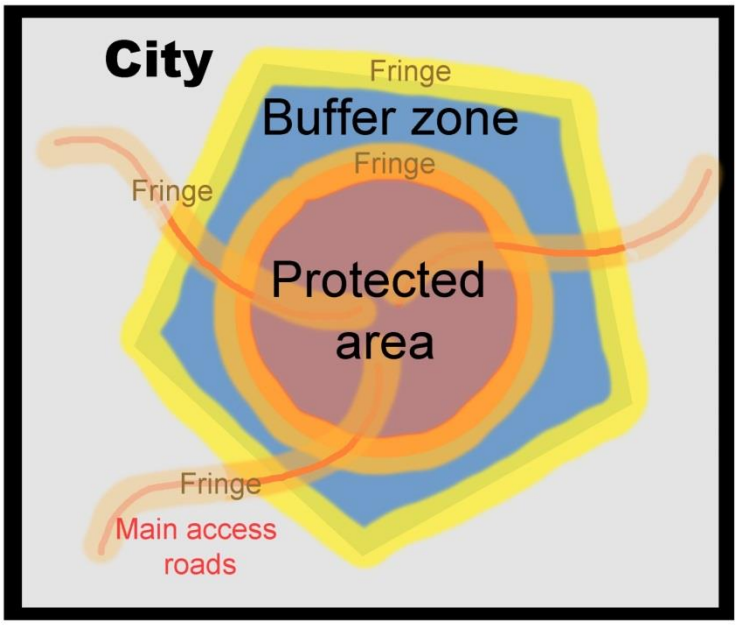

Figure 2. Diagram of the relationship between the protected area, the buffer zone, and their fringes

The "fringe area" is a concept as important in the context of the present paper as the buffer areas. Etymologically it defines an area beyond some limits, related to but not part of whatever is central or most widely accepted. It mostly acts as a transition area between places of different attributes. In urban planning, the fringe belt model was defined by Herbert Louis in his study of Berlin in 1936[102], and further developed by M.R.G Conzen in the 1960s[103] and Whitehand in the 1970s and '80s[104]. The concept is based on the fact that the city has a tendency to grow in cycles, alternating periods of slow and rapid or intensive growth. The fringe belts form at the edge of the new urban areas, define the border of the urban expansion in a given period and are engulfed by subsequent development cycles. They become marks in the urban landscape of development stages, border areas of transition between different development stages or age layers. Fringe belts are generally more loose urban structures resulting from a period of slow growth or no growth, and often have institutions that require large plots built at the edge of a development area: hospitals, universities, parks, sports grounds cemeteries. Conzen[105] further defines the fringe line of an urban structure that has been restricted in growth by town wall or other physical limitation as a **"fixation line**" forming a ring like structure around a given area. It has been noted[106] that most linear features that restrict the urban growth: rivers, railways, boulevards, highways, are likely to lead to the formation of fringe-belts. In terms of morphological features, "fringe belts have considerably larger average plot sizes, less hard surface and fewer road crossings: they are less permeable to traffic"[107], so they can be traced by analysing the

[102] Louis, Herbert. 1936. "Die Geographische Gliederung von Gross-Berlin". Engelhorn.
[103] Conzen, M.R.G. Alnwick, Northumberland: a study in town-plan analysis. IBG publication 27. 1960. London
[104] Whitehand, J.W.R. Urban fringe belts: development of an idea, Planning Perspectives. 1988. p347-358.
[105] Conzen, M.R.G. Alnwick, Northumberland: a study in town-plan analysis. IBG publication 27. 1960. London p.40
[106] Ducom, Estelle. Fringe-belt analysis in France: A Conzenian approach to urban renewal. Sorbonne University. 2008. Paris.
[107] Whitehand, JWR. Gu, Kai. Conserving Urban Landscape Heritage: a Geographical Approach. Procedia Social and Behavioral Sciences 2 (2010) 6948–6953

granularity and density of the city, density and patterns of roads, distribution and density of vegetation areas and plantings, shapes of plots and building sizes. For historic areas the fringe areas usually mark the transition between different stages, different historic layers and mediate how different development areas fit together.

Concepts relevant for the interpretation of H.U.L. – values and evaluation

The Past is 'fabricated' today[108]*.*

History is itself an act of interpretation: history recording is often an act of interpretation and "selective forgetting" since we strive to present the facts but we also need to justify them and prove them socially acceptable. History is therefore about writing stories: no one can be purely objective when it comes to recording events, and no one can record every aspect of reality. What we choose to record and what we choose to omit is what gives the measure of our subjectivity. Therefore history is the writer's own reflection of reality. To give new meaning and interpretation of history is to associate a new layer of understanding to present understanding. It can be done in theory, or in practice, through research or through built architecture.

Another facet of interpretation relates to the fact that **more** often than not laypeople cannot fully interpret and understand a heritage object and it's the professional's task to "translate" or interpret the object and make it available for the larger majority of people. Therefore, the perceived meanings of a heritage object, and the awareness of it at a specific moment in time depend greatly on the skills of the professionals. Authors like Salvador Viñas Muñoz[109], Roger Taylor[110] and Gustavo Bueno[111] go as far as suggesting that "hi-cult, or art, can serve as a form of discrimination, as the reading, appreciation and understanding of such objects are available only to a special intra-social groups"[112]. Hi-cult objects have therefore identification meanings, their reading and understanding is available only to a group of highly educated people. Ownership of such objects is closely connected with social and economic power. Academics and cultivated users of heritage objects form the minority group of stakeholders whose preferences and needs are often different from those of the general public. Since they represent, understand and often promote the hi-values of present society their opinion is crucial to the decision making process involved in any potential change. The ability to identify groups, to know and understand symbols, is part of the process of defining oneself, part of the process of belonging. The identification of meanings that an object can contain can relate to larger groups –humanity in itself, Western Culture, European Culture, express citizenship and convey the idea of national identity- or smaller cultural sub-groups or sub-cultures. It is important to stress that the "identification value" attached to an object referring to the nation identity of a group is usually added to the "historical value" of the object and not the other way around, which suggests a certain hierarchy in the meanings.

For H.U.L., which is understood on different levels and through the intimate experience of the place, the converse is also true; professionals might not always understand the complete set of meanings people relate to heritage, and sometimes end up ignoring the intangible aspects while focusing on the maintenance and recovery of material features. For example, ritual objects

[108] Lowenthal, David. 1998. "Fabricating Heritage." History & Memory 10 (1): 5–24.
[109] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 54
[110] Taylor, Roger.1978. Art, an Enemy of the People. Hassocks. The Harvester Press
[111] Bueno, Gustavo. 1996. El mito de la cultura. Barcelona: Editorial Prensa Iberica
[112] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 54

can lose their significance if the context changes, if deprived from specific ritualistic actions or if they are put in contact with "impure" elements, even if none of their material features change. One of the notable differences between the theories on urban conservation formulated in the late 1960s - early 1970s and the contemporary views, rests on the interpretation and definition of the threats to the historic areas. Until the Vienna Memorandum[113] one of the main challenges for urban conservation was preventing value loss by physical degradation. Since 2005 attention has been given to the perception of the urban landscape and its intangible values and characteristics. Therefore, contemporary theories stress that loss of significance is equally threatening for the urban landscape as physical degradation. The shift is evident, from care for the building fabric and material wholeness of the site, to the more intangible elements: socio-economic structure and coherence, growth, change of scale and perceptions.

Significance, value, meaning, layers of significance

The concept of **cultural significance** was introduced by the Burra Charter[114] in 1981 and expanded in the Charter for the Conservation of Places of Cultural Heritage Value[115], last revised in 2010. **Significance is** to signify, therefore to have a meaning. It does not necessarily mean to "have value": a significant element is not necessarily valuable in physical or economic sense. Significance is a crucial concept for the H.U.L., replacing the key role 'values' and 'value assessment' has had so far. Significance as opposed to value takes into account the changes in value perception between generations as a result of the continuing history of the place: cultural significance and meaning are subjective and change with generations and users, while value can be expressed in a more objective manner. The layers of significance are always intertwined in a web of meanings, where boundaries are quite difficult to establish and define. As with the case of historic layers, significance layers cannot be easily set apart, unless they represent a cornerstone in the evolution of the object, and mark a specific definable stage in its existence.

Meaning is usually derived from context and culture: there are objects of art that are not perceived as such until a specific moment in time, just as there are tools that become works of art through interpretation and acquiring significance. Specificity results from critique and subjectivity. Heritage seems to change meaning with time and passing generations. Most heritage objects were initially created with a function in mind, and as they changed and evolved through time, gathered additional meanings, becoming significant on other levels.

Through conservation, choices are made with regards to what aspects and meaning prevail over others. Any intervention, whether it is preservation, conservation, restoration, involves changes not only to the material form or material evolution of an object, but also to its meanings. By emphasising specific features over others, by bringing forth specific layers at the expense of others, conservation changes the hierarchy in the layers of meaning and thus the perceived significance of the object as a whole.

[113] Vienna Memorandum on "World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape". UNESCO. 2005. Available at http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf last accessed June 2014
[114] The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance. 1981. Available at http://australia.icomos.org/wp-content/uploads/BURRA-CHARTER-1999_charter-only.pdf
[115] Charter for the Conservation of Places of Cultural Heritage Value. ICOMOS. New Zealand 2010. Available at http://www.international.icomos.org/charters/ICOMOS_NZ_Charter_2010_FINAL_11_Oct_2010.pdf

For an individual, the reading and understanding of any object bearing significance is done in a layered way. The meanings conveyed by an object bearing significance for the viewer are structured in numerous layers, firstly with the object itself, the physical entity being looked at, secondly its creator, thirdly the place of origin and its historical and cultural relevance, fourthly the impact and the meaning of the object for today's society. These layers themselves are shaped according to one's understanding and education in more or less subjective and personal meanings. These layers of significance have been defines by Salvador Viñas Muñoz as being "webs of meaning" since their structure is "(...) impossible to untangle in a precise way (...)".[116]

A distinction has to be made between **attributes** and **values.** There are intrinsic and extrinsic, tangible and intangible attributes of value. Since values are a product of culture, understanding and education, they are intangible by definition. Values can only be **associated** to tangible or intangible elements. Values do not belong to the object but rather to the evaluator, and are learned through a mental process, education and cultural exposure. The symbolic value of an object is not intrinsic or inherent, but it is generated by the stakeholders. Considering that "the widespread recognition of the value of artworks by most people is what makes them the all-important or valuable pieces of heritage they are now"[117] is to acknowledge the importance awareness has on establishing the value of a piece of heritage. Salvador Viñas Muñoz refers to awareness as "power", further stating that "an increase in the number of people that agree upon the conservation meanings of an object can result in an increase in the significance of a given object"[118]. It is suggested that there is a connection between the value of a heritage object, the awareness of that object as well as the size of the group of stakeholders it involves.

Values are relative as they vary in time and space. When we talk about the value of heritage, we often consider it as a holistic concept. Heritage value can refer to different types of values which are more or less intertwined: artistic value, historic value, social value, iconic value – or identity value, economic and monetary value. In that sense, the concept of value which is unitary and is synonymous to "worth" is actually a layered concept, including functional values, artistic values, historic values, touristic values, economic values, iconic values, personal subjective values. The layers of value in relation to an object represent three different interests: the political interest, the economic interest, cultural interest.

Value of a heritage object represents the meaning attached to that object at any particular time. Therefore in time the value of any given object can change: values are not absolute in themselves, they are relative. Present day value is different from value at the moment of creation. The relative and subjective interpretation of cultural value makes it difficult to use it a viable scientific concept. Considering the complexity and span of cultural properties, it is difficult to analyse the traits and characteristics in terms of value, especially since some places hold spiritual meaning that is particularly difficult to quantify

According to Professor Gregory J. Ashworth[119], function and values are very closely connected notions, as an object's value is proportional to its ability to perform a given function. To have value means to fulfil a specific function which may be artistic, historic, economic, symbolic and so on. It appears as if "value" and "function" are interchangeable notions, and can

[116] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 46
[117] Idem. p. 160
[118] Ibid.
[119] Ashworth, G. J. (Gregory John), and J. E Tunbridge. 2000. The Tourist-Historic City Retrospect and Prospect of Managing the Heritage City. 1st ed. Amsterdam

substitute each other. For H.U.L. this is an interesting point, since the operational value, the instrumental value is what sets it apart from other historic areas. The use value and capacity for change are amongst the most important characteristics of H.U.L. Furthermore, the apparent variability of the values associated to a physical or intangible entity requires a cyclical re-evaluation. For H.U.L. the evaluation and assessment is more important as both the characteristics of the place as well as the meanings associated tend to change significantly over shorter periods of time.

The "Authentic" and the "Fake"

In terms of authenticity of heritage, and most importantly the authenticity of interventions within H.U.L., it is important to establish the difference between fake and copy. Authenticity is generally considered equivalent to truthfulness, and therefore to be authentic is the opposite of being fake.

A fake is an intentional falsification of something, intentional misleading from the truth; misinterpretation of information in the case of conservation: using pieces of furniture for an interior that was never meant to look, or has never looked in that manner. "Fake objects are undisputable, tautologically authentic objects, even if they have been incorrectly identified by the subjects; the fact that they were purposely produced to be wrongly identified by the subjects does not deprive them of a basic feature: real existence"[120] According to the same author, "fake" is a subjective attribute just like beauty and not a characteristic much less a value.[121] Therefore the non-authentic, the fake is the intention and purposeful act of misleading. Theoretically the copy, as long as it is recognised as a copy, is authentic in its own sense; it is only when the copy is presented as being the original that it loses its authenticity. Taken a step forward, if an author ads something to a completed work of art, he adds a new layer of significance, and therefore the work changes into something different. It is no longer the same work of art neither does it have the exact same meaning. It can be argued that the work of art becomes independent from the author once it is completed; an exact copy of a work of art, made by the same author is "something else", it is "another" as it cannot be identical to the original. Not being original does not mean that it loses the capacity to be or become unique. This is particularly relevant when analysing the authenticity of copies and "historic twins"[122] in wood restoration.

An authentic object has to be truthful, or in other words has to be found in a truthful state. If authenticity reflects the true nature of an object, and gives the measure of how truthful that object is, then an object has a true nature as long as it is authentic, and a non-true nature if it is found not to be authentic. In other words an unauthentic object exists in a non-true condition, or an object can have a non-authentic and non-true nature.

On the other hand, the "original, true condition"[123] of an object can be defined as the object's physical state in a moment of time, when its summed values were most relevant for the generations before, and at that specific moment. The true condition is the moment when the object reaches the peak of its perceived values. Following this assumption, when layers from historic objects are being removed in conservation or restoration, authentic layers of time and change are also being removed. The material removed from a heritage object is as real as the rest

[120] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 95
[121] Ibid.
[122] The historic twin is discussed in chapter 3, in reference to the Uthus project in Røros.
[123] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 95

of the object and thus just as authentic, although the removal itself may arguably be part of on operation claiming to keep the authenticity of the object and remove all parasitic parts. The only thing differentiating the different layers within an object is the value associated with them, and not their authenticity. This assumption would be in line with Ruskin's view on conservation and authenticity.

For wooden heritage the issue of the fake, copy and original and their associated values, should be discussed in terms of the partial or complete replacement of decayed areas. There is an undoubtable preference for originals rather than copies in heritage in general, as most people prefer to view the original object rather than a copy, regardless of its quality; for wooden heritage it is often the case that the original is decayed beyond repair, and its recovery through reconstruction, at least in theory, should not be allowed.

However, reconstruction can be considered acceptable in special cases[124], when the object resulted has a higher or similar significance to the historic one, shares the building techniques and materiality of the original substance, and only when the original monument has been thoroughly documented. The original material gives the feeling of timelessness, of being able to connect the moment of analysis to the moment of creation; the viewer may have the sensation of cheating the flow of time, stepping into a time portal. The "aura" of the object, its past experience and exposure cannot be replaced by a copy: like the life of a violin that, as it is played and used, builds a life of its own, develops together with its interpreter, and the sound it produces matures in time. An old well used violin will have a better sound and feel that a new one. In this case, no matter how accurate a copy would be, the new violin couldn't possibly have the same sound and feel as the old one. Sometimes time affected conservation objects gain special qualities through age, patina and continuous use, qualities impossible to transfer even to the best of copies. Although the physical stimuli provided by the replicas may be objectively similar or even identical to those produced by the original object, the experience is often considered less intense and complete. The reasons might be multiple, starting with the fact that we experience reality using more than physical stimuli to guide us, and ending with the fact that a copy will be used and treated, even by the experts, as a copy, so with less care and attention than the original. The feeling of possible loss and irreparable damage that makes the viewer considers the object with more attention, care and piety is lost when acknowledging that the object is a copy. Acknowledgement in that sense bears a lot of weigh, in relation to truth and authenticity.

As opposed to the fake, **the authentic object**[125] is one truthful to its creation, development and sensible nature. The truthful state of the object, and thus its authenticity resides in the moment of creation and all of the changes it has gone through with the passage of time, witnessed in the present. The truthful and authentic nature of the object is the reality the observer acknowledges.

In the internationally acknowledged theory of conservation, authenticity, or "the ability to understand the value attributed to the heritage depends on the degree to which information

[124] UNESCO supports and encourages the post-conflict and post- natural disaster reconstruction. However, the reconstruction of cultural heritage is not considered acceptable, unless it is made in a symbolic manner, acknowledging that the result of the reconstruction is a new symbolic object. This is the case of the Warsaw reconstruction. However, a similar approach was not considered justified in the case of the Bamiyan Buddhas, WHS destroyed in 2001, or in the case of the ancient shrines in Timbuktu destroyed in 2012. There is a considerable difference in terms of significance, use and symbolism that can be associated to the gesture of rebuilding such sites.

[125] "Being authentic" in Jokilehto, Jukka. 2006. "Considerations on Authenticity and Integrity in World Heritage Context." City & Time 2 (1). http://www.ceci-br.org/novo/revista/docs2006/CT-2006-44.pdf. p.8

sources about this value may be understood as credible or truthful" and can be expressed in "form and design, materials and substance, use and function, traditions, techniques and management systems, location and setting, language, and other forms of intangible heritage, spirit and feeling and other internal and external factors."[126] Therefore, authenticity is not a value of heritage, but rather a condition validating the values associated to heritage objects. The value of an object can change due to a decrease in authenticity, while usually the significance remains the same. This is one of the arguments that support the idea that the integrity of H.U.L. is more important than its authenticity. Authenticity does not refer to the moment of creation, but rather to the moment of acknowledgement, and therefore it is not an absolute notion. Since authenticity can be linked to material, patina, style, use of materials and colours, setting and traditions, it is a multidimensional concept: authenticity is layered. At the moment of its acknowledgement, an object has to be truthful about its creation, changes and about its function. For a building that expresses its function or codifies symbols in a deceitful way, it is doubtful whether it can be considered generally "authentic" based on the truthfulness of its material substance. A restaurant housed in the shell of an old church cannot be called full-heartedly "truthful" and "authentic" in relation to the significance the house conjures.

The truthfulness of change and the authenticity of time passage were considered so important that John Ruskin was willing to let buildings fall into oblivion for the sake of the authenticity of the decaying process and the patina. To him damage, decay and patina were the same type of time markers, and correcting any of them would have meant falsifying the evidence of time. Maintenance in his view would have been an act of falsification. [127]

The producer's intent as being the supreme and most truthful moment in the existence of a building was on the other hand what Viollet-le Duc believed in. Authenticity is not necessarily found the moment of creation, but the moment of conception. Some might argue that the moment when an object reaches its "true nature" coincides with the moment the object reaches the maximum of value on all possible levels, while others[128] state that at any moment of its existence an object is found in its "true nature" whether it is a gothic monument at the moment of its creation or a pile of rubble –ruins of a monument. As such, every object contains numerous truthful states of existence, and various forms of authenticity.

This brings us to the Theseus' paradox[129], where the original form, identity or significance have been retained to a great extent, but the original material substance had been completely replaced. It is debatable whether an object lacking all of its original historic substance can be considered "authentic" even if it retains all of its other characteristics. One attitude could be that as long as the life or functionality of the object or building continues, truthful and authentic, as long as the functional value exists the object retains a significant level of authenticity and therefore can be considered authentic. Changes, additions and modifications according to a set of principles and needs are possible in order to keep the use of the object. Once the functional value disappears leaving only the symbols behind, the object turns into what Salvador Viñas Muñoz called "conservation objects". At that point the authenticity and integrity become equally

[126] Operational Guidelines for the Implementation of the World Heritage Convention. UNESCO.2013. art. 80-82, p. 22 (available at http://whc.unesco.org/archive/opguide13-en.pdf)
[127] Ruskin, John. 2011. The Seven Lamps of Architecture. Project Gutenberg. Boston Dana Estes & Company. The Lamp of Truth. Available at http://www.gutenberg.org/files/35898/35898-h/35898-h.htm.
[128] Caple, Chris. 2000. Conservation Skills. Judgement, Method and Decision Making. London: Routledge.
[129] Jokilehto J. 2006, Considerations on authenticity and integrity in world heritage context. City & Time 2 (1): 1.

relevant, and from this point onward, preserving the authenticity means keeping the object in an "unchanged" state.

Attention should be given in some instances to the delicate balance between truth and meaning. Especially in the case of ritual objects, relics, and archaeological objects de-contextualising the object for the sake of truth and knowledge –turning the object into museum exhibits, or exposing them when they were meant to remain hidden from sight- may substantially modify the true meaning and the true history of the object. The authenticity of the object, that is the material truth, may be kept intact, or it may even become better preserved in this case, but the symbolic truth is impaired.

Therefore for historic urban landscapes truth and authenticity have a lot to do with communication. Most people being told that Old Rauma is a medieval town, would feel deceived to learn that what they actually see are 20th century facades, and that only some foundations and cellars make out the 15th century layer. They would better understand if they would be told that the first mention of the town was in 1443 and that most of the above ground structures have been rebuild after the 1683 fire that consumed most of the wooden town.

Communication in this case helps transmit and interpret information that would make the viewer understand the authenticity of the place. Authenticity for the viewer is sometimes a matter of perception, understanding what one sees, and properly deciphering the information through easy communication. "When the relevance of meaning is acknowledged, truth simply ceases to be the guiding criterion of conservation operations, and communicative efficiency becomes the likely substitute."[130] The value associated to an object through communication of meaning might be in some cases more important than scientific factual truth and authenticity. In this case the "truth" of the object is the perceived one, contained in the communicated meaning, which makes it relative, subjective and possibly different from the factual truth of reality. It can be the case of local legends, stories and memories of some local people, which have no scientific proof to confirm them. Authenticity and truth in relation to an object can be defined and interpreted on different layers. Factual truth, scientifically verifiable, is contained in a broader interpretation of the object which is also truthful to the object, and any intervention has to take into account and document this layered truth.

Authenticity and truthfulness exist in connection to a certain value or feature of an object, it cannot refer to a physical feature, as physical reality and physical characteristics cannot be "non-true". In this case both the notion of truth, as well as the notion of authenticity, is relative and related to our knowledge and perception of the object. They are not independent, objective, or general notions. Changes in heritage objects should not be done for the sake of authenticity, but for the sake of the values and significance associated to the object. Therefore, although authenticity is an essential characteristic of heritage that must not be lost, restoration should not be carried out solely for its sake: "When rigid conservation doctrine prioritises authenticity and restoration of the historic fabric over socio-economic functionality, for instance, it may diminish vitality and resilience of the historic city, which could have devastating effects in the long term."[131]

[130] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier
[131] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p.111

Integrity

As discussed previously, integrity is one of the fundamental conditions of the historic urban landscape. As defined in the Operational Guidelines for the Implementation of the World Heritage Convention "integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes."[132]

Integrity can be considered a quantitative characteristic of H.U.L. while authenticity is qualitative; integrity refers to the whole H.U.L., whereas authenticity refers to its constitutive elements analysed separately. On the other hand, the integrity can refer also to the artistic whole, to Cesare Brandi's "unitá potenziale"[133] that, according to Jukka Jokilehto, makes reference to the significance and meaning of the "artistic whole, which is more than the sum total of its parts."[134]
For a cultural landscape, the condition of integrity or "the state of being whole and undivided"[135] , its sound, unimpaired, or perfect condition is more significant than an authentic fragment. Its quality of "unity; wholeness" holds most significance, as the concept can be objectively quantified by taking into account the physical characteristics of the object rather than the symbolic ones. The integrity for cultural landscapes includes the links between different layers of development and significance, without which the understanding of the site would be, greatly impaired if not impossible.

In judging the integrity of urban landscapes, the concept of "use"[136] becomes revealing. The capacity of the built environment to be "whole and undivided" is found in close relation with both the state -and layer- considered as a reference, as well as with the idea of fulfilling its purpose –initial and ulterior. Both the architecture as well as the city have a tendency to change with use, receive additions, bear modifications, and change its constituent materials with time. Usually it is intended to last for more decades, often centuries, and the material it is made of usually changes. As it has been discussed, the architectural object sometimes changes use according to the passage of time, and thus the shape may change to accommodate the new use. Since integrity is a quantitative figure, it could be mathematically expressed in numbers in relation to the moment of reference. One refers to the integrity of a monument expressing how much of a particular historic layer has been kept unaltered, but also when expressing how much of the layers of significance have been kept or lost. Although it is mainly used as a concept addressing the physical substance of a monument, integrity can be used in relation to any of the values associated with a monument, taking as a reference point key moments from the life of the monument such as the moment of conception: producer's intent, the moment of creation: its initial form. Integrity can also be defined in relation to the moment of its disappearance, as it is truly lost only when the object is rendered unusable – the functional value is lost, or when the object loses most of its significance –though desecration or loss of physical integrity.

For the H.U.L. another form of integrity is relevant: the visual integrity referring to perceptions and perspective images. The visual integrity of the historic urban landscape can be influenced by how the site is perceived, and by the authenticity on atmosphere of the perceived

[132] Operational Guidelines for the Implementation of the World Heritage Convention. UNESCO.2013. art. 88, p. 23 (available at http://whc.unesco.org/archive/opguide13-en.pdf)
[133] Brandi, Cesare. 2000. Teoria Del Restauro. Einaudi. p.49
[134] Jokilehto, Jukka. 2010. "Notes on the Definition and Safeguarding of HUL." City &Time 4 (3). http://www.ct.ceci-br.org. p.47
[135] Integrity. Oxforddictionaries.com. Retrieved March 8, 2014, http://www.oxforddictionaries.com/definition/english/integrity?q=integrity
[136] Refering mostly to the functional integrity.

image. Integrity for H.U.L. also means that the significant layers showing its transformation over time can still be read or identified on site: the elements of identity are recognisable and identifiable.

Identity

"That is, whether the local population identify themselves with the site, and whose identity the site reflects."[137]

Identity[138] can be considered to have a number of different meanings; one of them and the most obvious relates to either the landmark or generative element of the settlement, in which case it can be constituted by an image, a ghost of the past, a physical element that could be partially present or completely missing from the landscape. Rauma's harbour and initial market place are examples where the element of identity is missing or is underrepresented in the landscape. However, a second dimension of the concept refers to the perceived identity of the place, or rather how the stakeholders perceive the place. This type of identity sometimes has no historical link or significance in relation to the place, and is more of a perception or perceived identity, about sameness and group membership. It may be the brand of the site, an image present in the mind of the stakeholders closely related to the site – acting more as a political resource rather than a cultural product[139].

Nevertheless, in both cases it is usually the coherent, homogenous and uniform entity of the place which gives it character and contributes to shaping its identity. Variety and identity are in some cases contrasting and opposing elements, as too much of one can destroy the other. A town with a strong identity can have a limited variety of shapes, sizes, colours, whereas a highly varied and vibrant town that has no unifying characteristic – element of identity- tends to lose its identity altogether. For historic areas in general, the readable layers of the past are indissolubly linked to the identity of the place. The desire to have a well maintained homogenous area can often contrast with the need to accurately show the traces and historic layers in order to maintain the identity of the place. In the mind of the user a well maintained environment is equivalent with higher standards of living and therefore increased –at least operational – value. For the sake of maintaining historic areas, historic components are covered or replaced by the uninformed users, in order to correct the untidy, rundown appearance. Maintaining the identity of the place, the historic appearance, the authenticity in atmosphere and authenticity in terms of textures and materials means mediating restoration, maintenance, patina and damage.

"Genius Loci"

"Genius Loci" has its roots in Ancient Rome[140] and translates as *genius* -"guardian spirit" and *loci* –"place" therefore "spirit of the place". Although linguistically the correct form would be

[137] The Declaration of San Antonio. 1996. ICOMOS.
[138] Identity, understood as sameness and group membership in opposition to the Saidian discourse of the 'other', as defined by Graham, Brian, and Peter Howard, ed. 2008. The Ashgate Research Companion to Heritage and Identity. Ashgate. p.5
[139] Graham, Brian; Howard, Peter. The Ashgate Research Companion to Heritage and Identity. 2008. Ashgate
[140] Norberg-Schulz, Christian. 1991. Genius Loci, Towards a Phenomenology of Architecture. New York: Rizzoli. p.18

"genii loci", or spirits of a place, the concept that was adopted in the contemporary discourse is that of the "genius loci", a singular "pervading spirit of a place"[141].

The spirit gives life to places, determines their character or essence. Schulz draws a connection between the "genius loci" and the "orientation" in a space, as well as the ability of an environment to produce mental images that allow individuals to identify themselves with that environment. The identity of a place and the identity of individuals are mutually inclusive according to Christian Norberg-Schulz, therefore the identity of the place is intertwined with the identity of the community that dwells within the space. "Character" and "meaning" become crucial qualities of the "genius loci.[142] It can be summed that the spirit of the place makes reference to the union of tangible and intangible characteristics of a place, that through their significance, specificity and identity, gives the user a sense of "orientation" and "identity" or in other words a sense of "belonging".

Stakeholders

As a concept, "the stakeholder" appeared in the management literature in 1965[143]. As in business, a stakeholder can be defined as "those groups without whose support the organisation would cease to exist"[144]. For businesses the stakeholders include the major interest groups: the shareowners, customers and employees but also the suppliers, lenders, society.[145] The stakeholders[146], their profiling and consultation during the shaping of the Management Plans or conservation policies is perhaps as relevant as establishing which are the values to be protected. Moreover, the stakeholders most connected to the site –the direct users of the site or monument- are the ones pointing out some of the most important values of the site, as the identity and social value. Discovering the relevant communities in relation to a site, changes the way in which the place's collective memory, traditions, intangible heritage, identity are understood, as well as the way in which the acknowledged values are protected and enhanced. Some of the intangible values of a site, especially when dealing with H.U.L., are connected to minority or ethnic groups. The emigrant groups add influences and layers of history belonging to their place of origin, the transnational groups in some cases bear witness that culture has no national borders. Social studies, anthropology and ethnography usually provide the best answers as to which are the most relevant communities which are place-bound. Architecture and conservation policies should consider the subtle differences between stakeholders and adapt accordingly. For the management plans, the identification of the stakeholders and community groups as well as the intangible values that link them to the site is a fundamental process, and

[141] "Genius Loci". Oxford Dictionary of English. 2010. 3rd Revise. Oxford University Press.
[142] Norberg-Schulz, Christian. 1991. Genius Loci, Towards a Phenomenology of Architecture. New York: Rizzoli. p.22
[143] In an internal memorandum at the Stanford Research Institute. Freeman, R. Edward. 1984. Strategic Management: A Stakeholder Approach. London: Pitman Publishing Inc. p. 31
[144] Freeman, R. Edward. 1984. Strategic Management: A Stakeholder Approach. London: Pitman Publishing Inc. p. 36
[145] Ibid.
[146] Understood as: stakeholder. Oxforddictionaries.com. Retrieved March 8, 2014, used in heritage with the meaning of "a person or group that has an investment, share, or interest in something [heritage]". Another contemporary definition is given by Andrew L. Friedman and Samantha Miles: "any group or individual who can affect or is affected by the achievement of the organisation objectives" Miles, Andrew L., and Friedman Samantha. 2006. Stakeholders : Theory and Practice. First edit. New York: Oxford University Press.p.5.

emphasising the role of the local community in the understanding and protection of the historic urban landscapes has become essential in recent years[147].

The direct users of a historic site –the heritage owners- are influenced by decisions about H.U.L. and as such, have a right to state their position and opinions regarding the object. The number of stakeholders in relation to a particular object can influence the value of the object, and give a measure as to how strict the intervention regulations must be. Objects that convey private meanings - and thus affect a fairly limited number of stakeholders- require less strict intervention regulations.

"They are conservation objects because a number of people agree that they have desirable social, private, or scientific meanings, not because of their material features: for them to become social symbols, they must be socially accepted; for them to possess scientific meaning, they must be recognized by scientists; for them to be private objects of conservation, they must have some special meaning for a family, for a group of friends or even for an individual.[…] ***If the subjects no longer agree that the object has meaning for them, the object would simply lose its meaning."***[148]

One of the interesting aspects of intervention processes in heritage areas lies in the fact that potentially the majority of stakeholders related to an object belong to future generations and cannot express their wishes and values, so decisions are made considering sustainability as the condition that would satisfy the needs of future generations. The authority of the expert is essential since it has to represent the interests and values of future generations, as well as negotiate between present interests, tangible and intangible values, present, past and potential uses and so on. The conservator expert is the main negotiator between all the stakeholders' -past, present or future- interests.

There are two categories of stakeholders that should influence the decision making, but whose opinions are often overlooked: the future users, because they cannot express their opinions, and the academic or cultivated users of the object, because their number is sometimes negligible by comparison with the other stakeholders. They need to be represented by the experts involved in the decision making. Academic and cultivated users have a special appreciation for historic and artistic values, as they have usually been formally trained to appreciate these aspects. They can often help develop a place brand if that is desired, or can be involved in fundraisers or other events aimed at raising awareness or maintaining the significance of H.U.L. Thanks to their deeper understanding of the values conveyed by an object, the 'hi-cult users' become interpreters and mediators between the objects and the rest of society[149].

In relation to the stakeholders and part of the threats analysed in management plans, there are a few phenomena that affect the tangibles of historic areas through changes of the intangibles.

Awareness

Awareness is needed prior to understanding heritage, as being aware is equivalent to "having or showing realisation, perception and knowledge"[150], one step further after "seeing". If

[147] Jokilehto, Jukka. 2010. "Notes on the Definition and Safeguarding of HUL." City &Time 4 (3). http://www.ct.ceci-br.org. p.51
[148] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier p.153
[149] Idem p. 54
[150] Awareness .2014. Merriam-Webster.com. Retrieved March 8, 2014, from http://www.merriam-webster.com/dictionary/awareness

agreed that experiencing heritage is a process of communication, involving the emitter – the heritage object, the code – potential values, and the receiver –the stakeholders, then awareness is a key element making the process work.

Culture and cultural resources are an important aspect of today's economies. Tourism has been considered by several authors as one of the world's largest service industries [151]. In order to better understand the full extent of the strengths and threads related to our heritage, we must also take a look at our resources from the market's point of view. In that sense, heritage can be considered "cultural goods", different from both consumer goods and services.

As a cultural product, heritage needs to generate the ultimate response which is "cultural absorption" or "cultural exploitation" and satisfaction. Generally when speaking about consumer goods, the ultimate goal is purchase, followed by consumption and satisfaction which may assure fidelity. However in the case of cultural goods the finality of the process has a slightly different outcome, the purchase being replaced with visiting or experiencing the heritage. The consumption in this case affects mainly the consumer and only indirectly the cultural resource itself. In this sense heritage goods act more as services than as consumer goods, because their main goal is to mediate a cultural experience and spiritual enrichment. However, the communication process is based on the same principles, and starts, regardless of the approach, with the cognitive stage. In other words, raising awareness, drawing attention and making heritage known are the first essential stages in the communication process.

A common point between consumer goods and cultural goods is that their consumption and use should provide the most satisfaction for most people. The best intervention for an object is therefore the one that generates the maximum satisfaction level for most of its present and potential future users.

Awareness is a concept much more complex than it seems at first glance. It can persuade the stakeholder to get involved with heritage and thereafter can influence the communication process itself. Secondly awareness and understanding are directly related to giving meaning and therefore are crucial stages in defining the value associated with heritage. Thirdly, awareness directly influences the number of stakeholders involved with heritage, and thus influence the overall perceived value as well as the conservation decisions made.

Muñoz has drawn attention to the fact that determining awareness for a particular heritage resource, the Parthenon for example, is an impossible task, as "it is not possible to precisely know the exact number of people for whom the Parthenon is actually meaningful, nor is it possible to know how much more meaningful the Parthenon is for Athenians than it is for the people of Heraklion, Milan or Calcutta; it is also impossible to measure how much these people would be affected by a given alteration on such object."[152] In the sense of "precisely know", awareness cannot be measured, but by measuring tourism statistics, travelling preferences, determining the interest for the cultural resource, and comparing groups of interested stakeholders, one can begin to understand how a particular resource is perceived and what the awareness level is. Statistics may seem as a very appealing and straightforward method of investigation, but when facing World Heritage Sites that address all of humanity, the process may become complicated. Regular marketing strategies should be applied with caution, since in this case the target group is all of humanity.

[151] Graham, Brian, and Peter Howard. 2008. The Ashgate Research Companion to Heritage and Identity. Ashgate. p.6
[152] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier p.162

Awareness as well as the value of identity are reasons some historic objects such as America's "Declaration of Independence", or the Eiffel Tower have benefited from a higher public attention, more funding and seem to be more "important" than other less known historic objects. The awareness an object has in relation to the great majority of people influences the tourism, the incomes and therefore the investments in relation to that object, making it seem more "valuable".

Patina and damage

The concept of patina was initially linked to paintings and their repair, and generally relates to the characteristic of the surface material. The first to address the concept of patina was Pietro Edwards in the 18th century[153], making the distinction between dirt and damage in paintings. The difference between superficial alteration of the surface and structural alteration of the material was what initially differentiated dirt from patina. The patina as desired alteration of materials was employed by artists of the 17th and 18th century to enhance the depth and tonal expressivity of their work. Painters such as Poussin, Claude Lorrain, and Dughet have used the technique in their paintings[154]. Patina, repair and "falsifying" a work of art by removing an integral part - the patina, were issues discussed in the 18th and 19th century concerning paintings, frescoes, sculptures and other works of art. Reintegration of missing parts was debated as impairment to the object's authenticity - defined as "faking" at the time. Reversible interventions on paintings were also advocated for the 18th century painting restoration, anticipating the architectural ideas of the 19th century.

In the contemporary discourse for architectural conservation, patina still refers to the surface characteristic of a building, but relates intimately to the authenticity and legibility[155] of the object. Overall, patina shows the changes in materials over time, and acts as proof of the age value. It validates the historical values of an object. Although it mainly refers to the surface of objects, **patina** can become **damage** on a historic surface when it decreases the value of the object or when its removal would compromise the integrity and legibility of the object. Patina becomes a relevant concept for wooden heritage, as wood is irreversibly affected by light radiation. In time unprotected wood components change their colour, texture and level of detailing through exposure to light radiation. It is important to define the threshold between patina and decay or damage, as light radiation can affect wood on a depth of up to 1 cm in 100 years[156], thus potentially turning patina into damage.

Damage resulted from cumulative effects to actions happening over a considerable span of time, can also be considered as proof of the passage of time, and it is also a mark of change. If changes within an object are not considered relevant, or rather they are considered to hinder the values of the object, they are defined as damage. Damage is considered to be

[153] Jokilehto, Jukka. 1999. A History of Architectural Conservation. Oxford England; Boston: Butterworth-Heinemann.p.98
[154] Ibid.
[155] Readability or legibility as part of the communication process between heritage and observer or interpreter, refer to the ability of an object to be correctly understood and interpreted. Authenticity or the truth nature of the object could be defined as the ability of the object to convey its truthful meaning to the observer - the more legible the object, the more authentic and truthful it is. Legibility expresses the capacity of an object to communicate meaning, and conveying: is what defines the values of cultural heritage. However, the degree in which meanings are understood and recognised by a significant group of individuals is given by the legibility of the object but also by the awareness stakeholders have of the object.
[156] Chapter 3: Wood as material and element of specificity: The decay of wood: radiation.

"injury or harm that reduces value or usefulness"[157], which makes it apparently easy do differentiate from patina – "a thin surface layer which develops on something because of use, age or chemical action"[158]- or restoration, although all concepts define change of the historic substance of the object.

Damage can be associated with structural alteration of physical or chemical properties of the object's substance, loss of integrity, or change and diminution of the object's perceived meanings. It can be either subjective and interpretable –in the case of loss of significance- , or objective and quantifiable – loss of integrity. The loss of physical coherence, or integrity, is another type of damage that can be achieved either by addition or subtraction: an object of heritage is considered equally "damaged" if original parts are being removed or if parasitic new ones are added, although the impact of the damage on the object is different in the two cases. Damage can be defined by the reversible nature of it in respect to the original substance. Discoloration, salt stains, parasitic additions, all have a different degree of reversibility, while loss of integrity, loss of significance are virtually irreversible.

The impact of the damage on the historic object is also an important factor. The impact of the damage depends according to: the extent of the damaged substance in relation to the rest of the object, the visibility of the damaged parts, whether detailed surveys of the object and damaged parts have been made, the type and extent to which values are affected, potential reversibility of the damage, the way in which perceptions of the unaffected parts of the object are modified by the damaged parts, and the way in which the perception of the entire object is being changed.

Patina and restoration are usually changes associated with an increase in value, while decay, damage in general and vandalism are associated with loss of value. Overall if changes of the historic substance are associated with "loss of value" then we are dealing with damage, while the effects of the patina are potentially reversible, defining a type of change that does not affect the values and integrity of the object. When damage is "a result of a personal, subjective judgement, (...) is, pre-eminently, a value judgement (...)"[159], it is not a universal concept, but rather varies in relation to our definition and perception of values. According to this definition damage cannot be scientifically defined nor can it be considered a property of the object. However, if damage is defined as "loss of integrity and physical coherence", it becomes an objective scientific concept.

In architectural conservation a clear differentiation had been made between original material and patina viewed as damage and not as a layer validating the age value. The "scientific theory of conservation that emerged between 1930 and 1950, mandates that conservation should avoid, as much as possible, the elimination, alteration or concealment of original materials"[160] although it encourages "the removal of 'non-original' materials such as yellowing varnishes on paintings and corrosion crusts on metal pieces"[161]. Patina in its quality as a non-original material can be discarded according to this view, although it possesses information about the object's becoming. The subjective process distinguishing patina from decay in architecture needs to be clarified in relation to wooden heritage as it can bring a different outcome of the conservation

[157] Damage. Oxforddictionaries.com. Retrieved March 8, 2014,
[158] Patina. Oxforddictionaries.com. Retrieved March 8, 2014,
[159] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 102
[160] Idem p.87
[161] Ibid.

procedures employed for heritage objects seen throughout the H.U.L. approach. Sometimes damage brings additional meaning to an object because of the process involved like in the case of war ruins. Some objects become meaningful because of their alterations and changes.

Gentrification

One of them is gentrification, generally defined as "the displacement of indigenous population in conservation schemes"[162]. As a concept it has its origins in the work of Ruth Glass[163] and can be used to define the displacement of traditional residents by a superior, richer class of residents as a result of the rise in property value. In the 1964 urban environment of England, it described the displacement of the lower classes by the middle class workforce in urban neighbourhoods. London was one of the cities particularly affected by the phenomenon, and as a result its traditional, long-time residents had to relocate. Later, the phenomenon was associated with urban and social changes in New York, Venice, Bologna or Salvador de Bahia -Brazil[164]. In case of Covent Garden protection area, in London, gentrification was a direct result of the protection steps that transformed the area in a "touristic district" and primarily affected the residents -the people who wanted to protect the area in the first place. The changes caused a major shift in the social, economic and ultimately urban structure of the affected neighbourhoods. Changes in the value of the properties in a particular region, associated with an increase in rent values, affects the local resident especially those with lower income.

Gentrification is seen as a phenomenon of intense social transformation, which can also be caused by the "indigenous" middle and higher middle income class population or their descendants. Following the physical and moral decay of the industrial cities[165] the middle and higher-middle income classes started an out-migration toward the more hygienic and luxurious peripheral areas of the city. The poorer classes including immigrants occupied the vacant houses and spaces in the inner city, over time becoming the 'traditional' inhabitants. "The return of the higher-income groups to the inner city areas improved by conservation and revitalization, pushing the 'traditional' residents out, resulted in the gentrification process of the historic city."[166]

Even in cases where the traditional and original users are the same, gentrification occurs because residential heritage is viewed as a luxury item, with significant representation value. Because of all the restrictions and necessary maintenance work a historic monument requires, most regular people end in an impossibility to properly maintain and inhabit it without support from the local authorities. Living in a historic monument implies additional costs, while the specialized work for minor repairs and regular maintenance costs are sometimes beyond the economic resources of the traditional inhabitants. This accelerates the gentrification process that can extent to the entire historic area.

The idea of coherence and preservation of the social fabric associated to heritage, ensuring the continuity in interaction between indigenous social groups and their heritage has

[162] Sampaio J. C. R. 2007. Gentrification: is it possible to avoid it? City & Time 3 (2): 3. [online] URL: http://www.ct.ceci-br.org p.28
[163] Slater, Tom. "Gentrification of the City": *Bridge, Gary, and Sophie Watson, ed. 2011. The New Blackwell Companion to the City. John Wiley & Sons.* Chapter 50
[164] Sampaio J. C. R. 2007. Gentrification: is it possible to avoid it? City & Time 3 (2): 3. [online] URL: http://www.ct.ceci-br.org
[165] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley.p.3
[166] Idem p. 38

been discussed in the 1976 Nairobi Recommendations[167] and was briefly touched in the 1987 Washington Charter[168]. The term generally addresses the displacement of existing functions and users as a result of the changes in economic functions or values within the historic quarter, generally through an increase in value. The same process can be observed, however, in relation to a decrease in value. A decrease in property value as a result of lack of maintenance or conservation can also affect an area larger than the property itself, and in time can also lead to changes in the community structure. People looking for a reputable neighbourhood will most likely change their property if its immediate environment becomes spoiled for whatever reason. Therefore gentrification in the sense of displacement of **indigenous population** can work for any group of stakeholder if the right conditions are met: stakeholders of lower income being particularly sensitive to economic factors and value increase while stakeholders of higher income are mainly affected by changes of the environment and value decrease in the neighbouring properties. There are also cases of forced displacements[169], but these do not make the subject of the current paper.

Gentrification is almost always linked to urban segregation[170] characterized by the association of similar social groups in order to maximize the qualities and advantages of a particular place in terms of living conditions, working environment, leisure, ensuring better services and community life. In Nordic cities the distribution of social wealth did not create historically significant discrepancies, social homogeneity rather than social segregation has been noticed. The urban structure, as well as the gentrification process itself, is in the Nordic Countries less polarized in relation to wealth distribution, but rather affected by the age of the general population, indicating a different segregation tendency[171].

Moral Wear

A second phenomenon is linked to the stakeholder's perception and understanding of value. Moral wear[172] is a concept proposed and used throughout this paper to define a decrease in the **perceived** value of a place due to excessive use, ease of access or perceived abundance. It can influence the attitude of stakeholders toward a place as well as modify the patterns of use and destination options in tourism. This is relevant for Historic Urban Landscapes because often the values perceived by the users are different from the values assessed by professionals and even to the values intrinsic to the place: such as age value.

Moral in this context stands for the idea of perceived value and value integrity, standards and virtues. It refers to the emotional set of values associated to a place or object such as identity and emotional attachment and most importantly perceived rarity value.

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[167] Recommendation concerning the Safeguarding and Contemporary Role of Historic Areas. General Conference UNESCO, Nineteenth Session Nairobi, November 1976 . p20-29. art 46. Available at http://unesdoc.unesco.org/images/0011/001140/114038e.pdf#page=136 (last accessed March 2014)

[168] Charter for the conservation of historic towns and urban areas. ICOMOS. 1987 Washington. Art.3. Available at http://www.international.icomos.org/charters/towns_e.pdf (last accessed March 2014)

[169] 19th century displacements that took place either on an isolated or on a more wider scale, as presented by Smith, Neil. 1996. "Is Gentrification a Dirty Word?" In The New Urban Frontier: Gentrification and the Revanchist City, 28–45. London and New York: Routledge.

[170] Sampaio J. C. R. 2007. Gentrification: is it possible to avoid it? City & Time 3 (2): 3. [online] URL: http://www.ct.ceci-br.org p.30

[171] Scandinavian countries have the smallest income disparities, with a Gini coefficient for disposable income of around 0.25. Source: "For Richer, for Poorer." 2012. The Economist. http://www.economist.com/node/21564414.

[172] The concept of moral wear is a concept elaborated and used throughout the present research to underline some of the possible threats resulting from intensive use of a site for touristic or otherwise promotional purposes.

Rarity defined as unusual, uncommon or as economic scarcity implies limited resources, limited number or limited access[173].The scarcity principle, or the *'I want now what I may not be able to get in the future'* reflects that people have unlimited wants but limited resources. Rarity and the principle of rarity preference[174] underline the preference the user or player has for the rarest attribute.[175] Rarity can manifest in terms of heritage and visitor experience in many ways: if it does not happen often and it is perceived to have a time limit, if there is a restricted amount available – quantity limit – , and it worsens or consumes itself in time – quality and time limit. Often it is not repeatable, although there are cases when a time-dependent or otherwise environmental-dependent phenomenon can re-occur in time: natural phenomena, biological occurrences and so on. Seeing the Aurora Borealis is an extraordinary experience, valuable in itself to the extent that groups of people are going to the North with the sole purpose of experiencing this unique event. They perceive it as a valuable, as the rarity of this occurring phenomenon and the relative difficult access limits the possibility of having this type of experience.

In game theory, the rarity preference has been associated with its counterbalancing phenomenon: the availability preference: "Ceteris paribus, a player is more inclined to pick an attribute which is more available."[176] However, for heritage this can be observed as a preference for those sites that are easily accessible, available to the user and present the same type of values and attributes with their less accessible counterparts. The rarity and availability preference generally compensate each other.

Experiencing a place gives the user a sense of value resulting from the uniqueness of the experience. It is not an inherent value of the place itself, but it is a value associated by some stakeholders to the intangible traits of the H.U.L. It is one of the reasons tourists find some places more valuable, special and spectacular than the local residents. For tourism this is relevant because the more unique and in that sense rare the experience, the more it is perceived by the tourists as "valuable".

Moral wear occurs when a site or phenomenon is readily available and experienced by the great majority of people to the extent that it stops being considered unusual or uncommon. This means reducing the perceived rarity and augmenting the choice of the user based on the availability preference. For World Heritage Sites it would signify that the site is no longer PERCEIVED as rare. In Old Rauma, this attitude can be seen in the local residents – they consider the site valuable for reasons different from the outstanding. The place is valuable (for the user) because home is there; family is there, because of the atmosphere and quality of life, the quality of architecture. However, the place is no longer perceived as unique or rare when it is experienced every day –it becomes common. It is important to stress that the site is no longer PERCEIVED by the local user as outstanding because it is no longer 'rare', although the inherent values remain unchanged. It is also the case of Rome: its everyday users become less bewildered by the intricate layers of history that surrounds them, in contrast with the occasional tourist that is often overwhelmed by the layers of history revealed at every street corner. For the everyday user the rarity value of the place was decreased by the fact that the experience is not time bound

[173] . "Rarity". Oxforddictionaries.com. Retrieved March 8, 2014.
[174] Bacharach, Michael, and Michele Bernasconi. 1997. "The Variable Frame Theory of Focal Points: An Experimental Study." Games and Economic Behavior 19 (1): 1–45. doi:10.1006/game.1997.0546.
[175] Ibid.
[176] Ibid.

and is not restricted in any way. The cultural experience of the place has become common and in that lost part of its urgency and perceived value.

In the context of this research, the moral wear of wooden historic urban landscapes is related to making these places over accessible especially in terms of understanding. When the value of the experience of a place can be decreased by the ease or frequency of access, by fast and shallow reading of its significance of a place, by reducing its perceived uniqueness and rarity, moral wear occurs.

Change

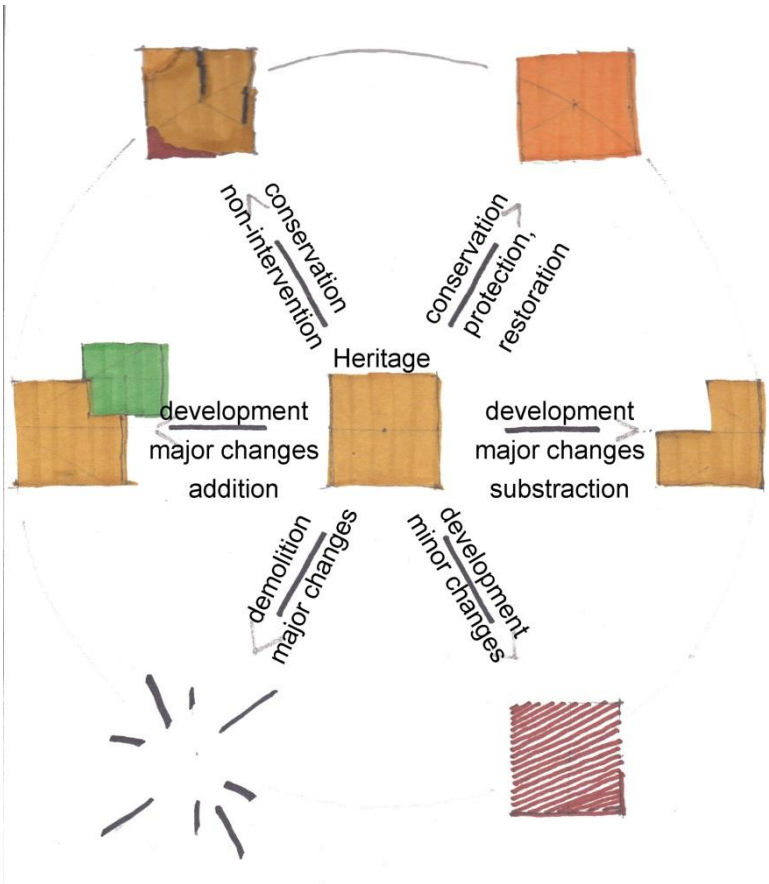


Figure 3. Diagram of different meanings of "change"

Change is evolution, development; stillness is death; life is change[177]. The questions that need to be answered are when does change become unacceptable and how can acceptable changes be evaluated and measured.

For H.U.L. the continuous use of heritage structures, "the gradual process over time"[178] is one of the most important traits of its functional dynamics. As long as an object or monument is

[177] Jokilehto, Jukka. 2010. "Notes on the Definition and Safeguarding of HUL." City &Time 4 (3). http://www.ct.ceci-br.org. p.48

in active use, prevention of changes is not advisable as there is the risk of "freezing" or "museifying" the object. However, there is the possibility to limit and define the acceptable changes so that they would not diminish the qualities of the cultural landscape. The main focus of conservation and preservation strategies in historic urban areas should be maintaining both tangible and intangible values, including lifestyles and traditions keep, and not preventing change**.** **Continuity and change** must find a balance, just as authenticity and truth must find a balance.

Once established that the living H.U.L. is not only a physical entity, and that its values rest on the understanding of both the tangible and intangible components, within a given context and considering its historical timeline, one can discuss what is implied by change and management of change. Aside from protection and maintenance of present values, with their tangible and intangible characteristics: architectural framework, physically defined historic area, human dimension with the social and economic aspects, use and maintenance of traditional types of use, one has to consider the need for development. **Sustainable development** becomes more relevant in urban conservation as a necessity but also since preserving and maintaining present values for the future is the fundamental requirement for the conservation policies. A successful intervention or change on an object is not measured in relation to the object, but in relation to its beneficiaries, the ones affected by the object and the ones that attribute values to the object. The responsibility we carry in modifying the life of an object is not toward the object itself, but toward the affected stakeholders, whether they belong to the past, present or future. The specialist's task is to understand, interpret, make public and negotiate between different interests and different points of view, as he acts as interpreter and negotiator.[179]

Whether we are deciding on conservation, protection, restoration, plain maintenance, or even doing nothing and allowing time change an object, all of these decisions taken at a specific time lead to the object's change. Life and the flow of time involve change, regardless of what we do. Our choice is ultimately based on the manner we consider objects should change. In some cases, the stakeholders might decide that the object deserves to be spared from decay, and has the right to show its significance in the future and for future generations. Salvador Muñoz Viñas writes that "objects have no rights; subjects do have them" as they "are produced, maintained and cared for just because they are useful to us; we use them, and discard them when they cease to be useful."[180] We grant value to an object and we also control the changes it will sustain, not because we have to, or because the object itself has the right to be cared for in a particular way, but because, as beneficiaries of our heritage, we have the right to do so. The responsibility in in every intervention or non-intervention decided through the management of change is toward the user and stakeholders, not toward the building or conservation object itself. Managing change is not done for the sake of change, nor is it done for the sake of the object itself, but rather in order to keep, maintain and enhance the meanings it conveys for the people. It is also done so that decisions can be balanced and represent the desires, preferences and objectives of as many stakeholders as possible.

Sometimes changes in an object can be harmful to people, by compromising safety, if considerable amount of its integrity has been lost, and sometimes when its perception is

[178] Idem p.44
[179] Feilden, Bernard, and Jukka Jokilehto. 1998. Management Guidelines for World Cultural Heritage Sites. 2nd ed. Rome: ICCROM. http://www.worldcat.org/title/management-guidelines-for-world-cultural-heritage-sites/oclc/300938883.
[180] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier p.157

hindered. Conservation decisions affect the potential owner of the building or site, the visitors -because of the viewing experience and information transmitted, the neighbours -through the possible traffic modification or modification of infrastructure, restricted access, electrical or water supplies, the whole logistic system of an area, the local economy -through the income from tourism and its related activities-, the whole development of a region.

The number of people affected by potential changes in an object can vary from one person, a single family to all humanity. Generally speaking, World Heritage Sites have a great level of relevance for most of humanity, because of their Universal Values[181]. The impact these cultural sites and their outstanding values have on all of humanity is of the largest measurable. In these cases, even minute changes can trigger large differences.

The concept of change is closely linked to the concept of value and meaning, although change is easier to define from an objective and scientific position. Assigning meaning and value, subjective process by nature, greatly influence the changes – an objective and scientifically measurable – allowed to occur. Thus a paradox arises from the fact that objective measures and decisions are taken based on subjective reasoning. The degree of subjectivity can be reduced through specialist expertise and general agreement on specific value codes, which can sometimes prevent or limit excesses for example in the case of privately owned heritage -which often cannot be sold, destroyed, or altered at the will of its owner.

Change and authenticity must be managed with care, as sometimes present value judgements might hinder the understanding of historic aspects that may be considered important for the future. Documentation of all changes made to historic objects could help lessen the risk of permanently losing traces bearing potentially important meanings. This may be the case of additions, considered "parasitic" by present generations. It is often the case that historic layers representing present changes or past changes –for example 19th century decorations, panels, finishing materials or extensions- are removed and replaced by more "relevant" layers –such as 17th century layers. Nevertheless the removed layers are as authentic as any of the other layers in terms of truthfulness toward the object's evolution, but are considered to hold less value or to hider the understanding of the object's significance. In some cases changes are done in order to emphasise the values of an object rather than its "truthfulness" or authenticity.

Decisions about changes made to historic heritage cannot be done by singular individuals, no matter how gifted or talented they may be. The architect's addition to a historic building, his interpretation of the future development of the built environment, has to be validated by the majority of stakeholders involved, so complete freedom of creation is not possible when dealing with heritage. The potential changes can reflect the period in which it is made and it can be a mark of "present times" as long as it holds sufficient value to be considered representative for its time and for the majority of stakeholders. Every layer from the life of the objects characterises the object itself, a specific period in time, and a number of decision makers or other stakeholders that contributed to its formation. As long as the process of change done today is sensible and pertinent, adding present symbols without compromising past ones, as long as it can be considered representative for today's ethics, techniques and technologies, for the people and for the professionals, it should be allowed. The professional has to be a negotiator between all of the above, but also needs the humility and prudence to accept that the commonly accepted

[181] "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. P.2 IB art4. http://whc.unesco.org/en/guidelines last accessed November 2014

contemporary values and symbols may be different for different stakeholders, that change has to reflect the truth of today and not the ideals of tomorrow.

In order to generate or conserve meaningful architecture one needs to respect the identity and genius of the place, and thus the local traditions must be understood and maintained. But tradition cannot be frozen in time or space as it represents the relation of life with the place, a process constantly reinterpreted and redefined. Change is what gives a place its meaning, and so in order to preserve the values of architecture, one must assume that they change together with the people that generate them.

One of the objectives of ICCROM's Management Guidelines for World Cultural Sites[182] is the control of change rate for both tangible and intangible components.

Impact assessment

Heritage impact assessment (H.I.A.) is an iterative process[183] meant to assess the effects on cultural heritage attributes from development or other changes. Impact assessment are a tool meant to measure the effects of different changes which be adverse or beneficial, direct or indirect, cumulative, temporary or permanent, reversible or irreversible, visual or non-visible, physical or intangible, social, cultural and economic. For World Heritage Sites and Historic Urban Landscapes the attributes that give the property its Outstanding Universal Value are particularly important and these are primarily considered in the H.I.A.

Impact assessment consider change as they 'identify and scrutinize the scale and severity of a specific change or impact on a specific attribute – as this combination is what defines the significance of the impact, otherwise called "significance of effect".'[184]

Impact assessments typically have a standard structure that overlaps with the structure of typical management plans, as both require: a consultation platform enabling communication between all stakeholders; identification of suitable organisations to undertake specific tasks; they both need to establish a study area; they both need to characterise the heritage resource, especially in identifying significance and attributes that convey OUV; they both have to consider threats and draft a mitigation scheme in order to avoid, reduce, rehabilitate or compensate for the identified threats. As opposed to a more general management plan, the impact assessment tackles specific threats into more detail, collects data relevant for the scope of the work, models and assesses all impacts direct and indirect related to a specific threat, has a more in-depth report based on multiple consultation with all stakeholders[185] Ultimately, the main advantage that H.I.A. has over classic management plans is that it looks at the "significance of the effect of change –i.e. the overall impact - on an attribute is a function of the importance of the attribute and the scale of change", which means that all changes can be objectively analysed and catalogues on a range from "major beneficial" to "major adverse"[186]

[182] Feilden, Bernard; Jokilehto, Jukka. Management Guidelines for World Cultural Heritage Sites. ICCROM. 1998
[183] "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties." 2011. Paris. http://www.icomos.org/world_heritage/HIA_20110201.pdf.
[184] Idem, section 5: A defendable system for assessing/evaluating impact
[185] Idem, Stages of HIA.
[186] Idem, section 5, art.5.8

Conclusion

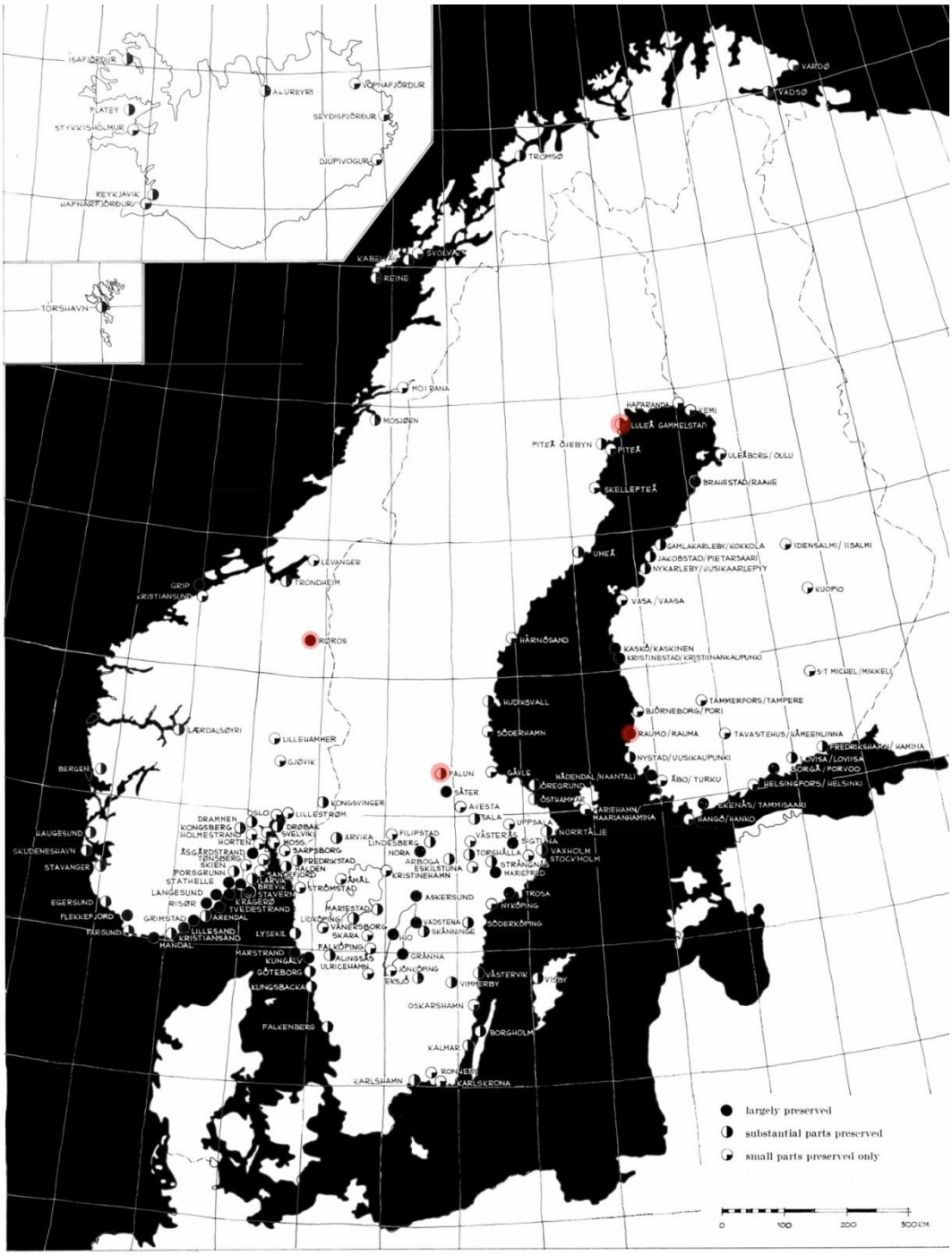
Changes in the theories of conservation have led to the constant definition and optimization of concepts in the 20th century. Urban conservation paradigms were defined later using those of monuments as starting point, and therefore remaining somewhat incomplete and open to changes and interpretation. In the conservation field, "buildings are experienced with all the senses and in more ways than regular conservation objects"; they are "not only seen, but also touched, walked through, stepped on, smelled, felt."[187] Taking this a step forward, the experience of urban spaces is further dependant on understanding and significance: inward and outward, private and public, introverted and extroverted, condensed or borderless; all of the above are experiences of the urban space that can be understood only together with the social dimension. The geometry, texture and use of a space is no longer enough – the attitude, customs and traditions layer the experience of an urban place from the simple –geometric to the profound – spiritual. The urban space is, as defined by the Vienna Memorandum[188], a landscape of the imagination, a result of perception and understanding of the physical urban space and everything around it as well as an articulation of buildings and spaces. Significance and symbols, "*genius loci"*, intangible heritage, values and their perception, physical elements and their interconnection, the built and the natural are equally relevant for the cultural landscape. Amongst the concepts emerging in the 21st century, one of the most meaningful is the Historic Urban Landscape that analyses significant urban areas considering their context, integration in the natural environment, users and stakeholders.

Defining the historic urban areas in a particular cultural context as Historic Urban Landscapes is a first step toward a more efficient conservation, protection and development of the culturally significant. The "*genius loci"* and significance of the place from the perspective of H.U.L. takes into account the intangibles and discrete relations that have been overlooked until now. The next step –dealing with H.U.L. - starts from the premise that change is inevitable as it is associated to the passage of time. Whatever the decision for a particular place: conservation and protection, aggressive development, sustainable development or non-intervention, changes will occur. Therefore "dealing with H.U.L." is synonymous with "Managing Change": acknowledging that change will occur, and, following evaluation and impact analysis processes, planning to allow the changes that would minimize or remove threats as well as preserve and enhance values for a selected area. Therefore management plans are acknowledging change as part of the cycle of life of any environment, but at the same time attempting to define the limits of acceptable change in order to protect and enhance the existing values and allow for sustainable development.

In the following chapters historic urban landscapes will be defined in the culturally specific region of the Nordic countries, and a management plan aiming at controlling changes will be proposed.

[187] Muñoz Viñas, Salvador. 2005. Contemporary Theory of Conservation. Amsterdam: Elsevier. p. 73
[188] Vienna Memorandum on "World Heritage and Contemporary Architecture - Managing the Historic Urban Landscape". UNESCO. 2005. Available at http://whc.unesco.org/archive/2005/whc05-15ga-inf7e.pdf last accessed June 2014

CHAPTER 2: NORDIC WORLD HERITAGE WOODEN HISTORIC URBAN LANDSCAPES



Map 1: Historic Cities in the Nordic Countries. Source: Kärki, Pekka: The conservation of wooden towns. 1996. Legend reads: largely preserved; substantial parts preserved; small parts preserved only

The present chapter addresses the issue of defining and understanding Historic Urban Landscapes at a wide scale: the Wooden World Heritage Historic Urban Landscapes of the Nordic countries. Common points and specific problems for each site may shed light on whether one tool can be successfully employed to control change: minimize threats and make use of the opportunities for each of these sites. For each of the study cases, the defined Universal Value, their specificity and identity as defined in chapter 1, are analysed in an attempt to point out that World Heritage Sites often do not share the same rigorous consideration of their core traits. In some cases the elements of identity and specificity can be read on site. In other cases a thorough understanding of the history and evolution of the place are needed in order to pinpoint the elements of identity. The relation with the Natural is an important dimension of the Nordic cultural landscapes often overlooked in the town plans. The continuous use gives an idea on whether the authenticity of the place can be expressed through the gradual, natural evolution of the place. It also links to the local residents which in some cases are the traditional inhabitants of the place. For World Heritage Sites it is also important to address the issue of the management and protection plans and tools, the elaboration of which is mandatory[189]. Finally the opportunities and threats observed in each case are presented in an attempt to pinpoint the common problems management plans should address for the World Heritage Historic Urban Landscapes of the

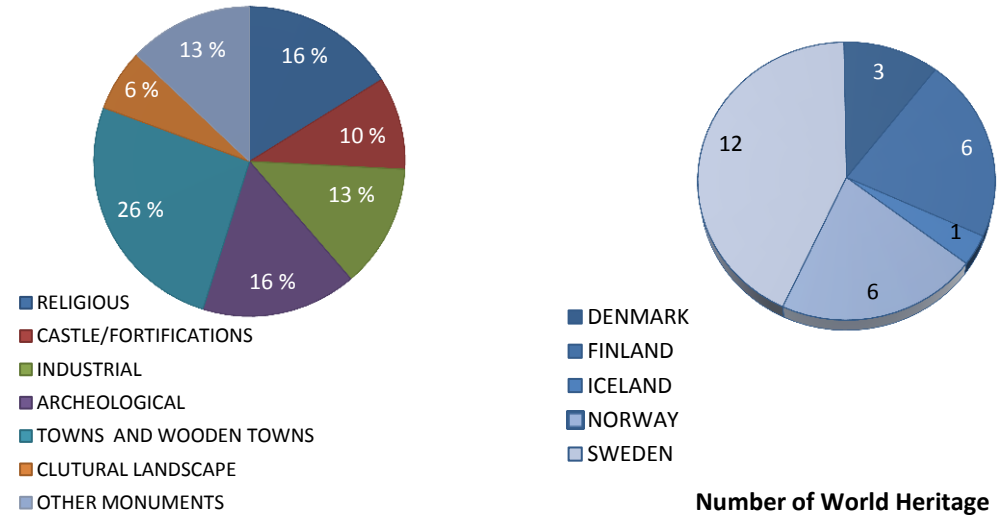


Figure 4: UNESCO Nordic Heritage. Source: UNESCO World Heritage Statistics: http://whc.unesco.org/en/list/stat

"North".

The "North" defines a very special and peculiar region of Europe, culturally both powerful and vague. Although they are different in countless aspects, cultural and otherwise, the Nordic Countries have a great number of common characteristics that set them apart from all the other

[189] "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines. IIF 97, p.25

European regions and allow them to be experienced as "The North". It is important to define and understand the specificity and identity of the North, as it represents one of the crucial components of European culture.

In terms of cultural representativeness, all World Heritage sites possess Outstanding Universal Value. The World Heritage wooden towns of Fennoscandia represented in 2011 about 13% of the UNESCO Nordic Heritage[190], which makes them relevant as a typological cultural example.

The wooden town in Fennoscandia does not possess intrinsic values derived from its materiality, but it represents manifestation of the urbanization process influenced by its complex Geo-political, economic and natural context. The wood materiality of these towns is not the characteristic value of the North, but rather a characteristic derived from the adaptation of these settlements to their general contexts over time. The Nordic towns generally developed slowly from settlements formed around trade centres, castles, religious congregations or temples, which usually remain the landmark or identity pivot of the area[191].

The context and development of the Nordic settlements is very much defined by the **Nature**, with which it establishes a harmony difficult to grasp. From materials and colours used, to the relation between urban and natural, inside and outside, architecture and nature have a specific and special relationship. This is particularly the case of vernacular architecture, which generally shows more clearly the relation between the spirituality of the people and the general context.

The **land and its topography** seem different from the rest of Europe, and one begins to understand what dispersed, fragmented and boundless means. The low density of the built environment is what allows for a better understanding and appreciation of the Nature, which is more often than not a part of the city rather than the opposite of the "Urban".

While in the urban areas the **Natural** seems to invade in a calm and organised manner the tectonic, built environment, outside the urban areas the forests, open lands and lakes create a vast and intricate network. This difference is one of the most obvious between North and the rest of Europe, since whereas generally the nature breaks IN the vast network of the Metapolis, in the North the vast natural space is broken in places BY the cities. In the North one does not go into the Nature but rather out of it[192].

Although the Finnish scenery is marked by lakes and forests, the Norwegian one by rocky mountains and rifts, the Danish by the hills and dales, the Swedish by forests and open plains, they all appear as vigorous wild realms tamed by people, rather than wild realms massively urbanised. The mutual influence between city and the nature is evident in case of cities founded close to the water, in connection or around harbours.[193] Norway is influenced by the Atlantic, Sweden and Finland by the Baltic and the Gulf of Bothnia and Denmark by the North Sea. Each mass of water with its own dynamic, colour and presence gives a different context and identity to the architecture it comes in contact with. By facilitating trade and mediating the flow of information and culture, the connection with water allowed for a varied and more dynamic

[190] Considering the World Heritage List 2011. http://whc.unesco.org/en/list (accessed September 1, 2011)
[191] Gutkind, E.A. 1965. *Urban Development in the Alpine and Scandinavian Countries* (N.y. : Free Press, 1965), 395-397.
[192] Norberg-Schulz, Christian. 1996.*Nightlands: Nordic building*. Cambridge, Mass: MIT Press, 27.
[193] Ibid.

development of historic towns, while the majority of northern towns built up to the 19th century were formed in connection to water[194].

Since architecture is place specific, the architecture of the North reflects the characteristics of the place, its apparent oddity, and complex simplicity. Building methods, the materials chosen, the decorations used reflect not only the needs and lifestyles of a certain place, but also mentalities and convictions, and as such architecture is not just the result of specific needs dictated by context and stylistic influences, but it embodies the human spirituality and local culture. The classic grid specific especially for Sweden and Finland[195], counterbalances and equilibrates the dissolution of the city in the formless Nature, while the simple and sometimes heavy forms of the buildings seek to ground the man-made into the natural.

The **scale** of architecture is a characteristic feature of the North. When analysing the scale and typology of architecture it is important to bear in mind Christian Norberg-Schulz's statement that "In the North, life does not ensue on the piazzas but in the home, and this entails that intimacy and warmth are more important than representative and grandeur."[196] The old settlement embodies the first and most sincere relationship between man and his environment, because it shows its bare primordial needs and beliefs. Often lacking grandeur and representativeness the old residences articulated together to form the "old towns" show the relationship between man, Nature, light and weather, being thus a statement of Man's spirituality rather than Man's strength. Norberg-Schulz considers the Swedish red cottages with gambrel roofs, the Norwegian log buildings and starves, and the Finnish wooden buildings as being some of the most characteristic and culturally relevant architectural manifestations of the connection between man and place, building and "*genius loci".*

Metamorphosis is also what characterises the Nordic environment, where light, colour, nature and architecture create an ever changing whole. In order to keep the coherence and identity of the place, architecture must understand and embrace tradition, as a historic reference or expression. The first step in keeping and maintaining the identity and genius of a place is taken by understanding what they are.

Wood is considered[197] to be the essential and specific regional element of the North. Its materiality expresses both the needs as well as the spirituality of the people that have been using it here unlike anywhere else for thousands of years. Wood was the most common building material in Finland, Sweden and Norway, and here the timber log constructions with or without exterior panelling gained a special relation to their context, unlike anywhere else in the world. Wood as a building material and the skills needed to shape it are elements that unite the Nordic Countries in spirit. At the same time this is what differentiates them in character, just like the Nature where the wood originates from.

[194] Gutkind, E.A. 1965. *Urban Development in the Alpine and Scandinavian Countries* (N.y. : Free Press, 1965), 345, 397-399.
[195] Lilius, Henrik.*Suomalainen puukaupunki =: The Finnish wooden town*. (Anders Nyborg,1985),150.
[196] Norberg-Schulz, Christian. 1996. *Nightlands: Nordic building*. Cambridge, Mass: MIT Press.,22.
[197] Norberg-Schulz, Christian. 1996. *Nightlands: Nordic building*. Cambridge, Mass: MIT Press.,53.

SWEDEN

According to Christian Norberg Schulz[198] the red painted **log construction** with its sturdy structure is the most specific in Sweden. Although there are indications that the log constructions in the North were influenced by Russian architecture[199], sustained by the relations between Scandinavia and the East, one must consider that this functional way of building might represent an intuitive natural solution to living up North. A number of typical elements are a technical response to building with logs, such as the small fenestrations and openings within the structure and the rebound timber ends.

Adzing and the use of regular standing panel cladding – the vertical clapboard- are other traditional elements used in early Swedish wooden architecture. The log construction is seen by some authors as being a Swedish mixture of influences: the building techniques used and the quality of the interior space are considered to be of Russian origin[200], the "broken gable" and general form of the roof are considered to be of French influence, particularly of the French mansard roof[201]. It is undeniable that mediated by economic and cultural contacts, influences from the Baltic region, Poland and even Bohemia can be identified in Swedish architecture, but one has to be weary of where the natural response to common factors ends and the stylistic influence begins, especially when considering the vernacular.

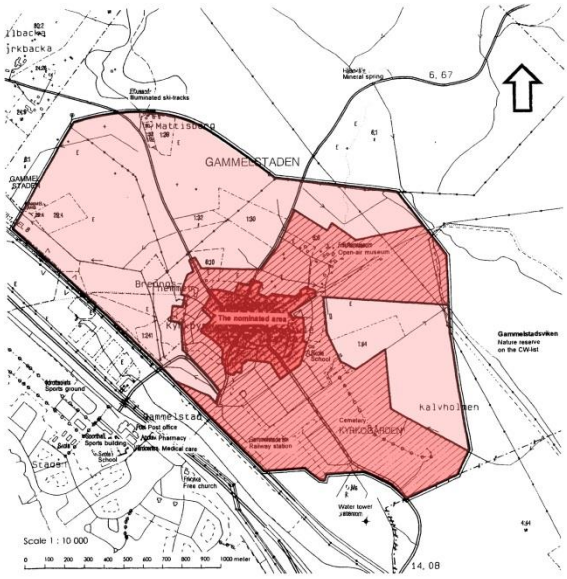
The use of particular building techniques and materials sets the grounds for the establishment of a certain typology, such as the post-house, the high-strip house, the *mora* – three room plan, or the *parstuga* – double house. What are apparently[202] common for all of these are the building techniques and the unifying omnipresent red paint. It is arguable whether the tradition of covering the façades with red colour, considered by some to have started in the seventeenth century, is indeed specific only to Sweden[203].

Sweden has two World Heritage Wooden Towns, sharing tradition but being greatly differentiated by character.

[198] Idem,p 59.
[199] Pettersson, Lars. 1989. Suomalainen Puukirkko - Finnish Wooden Church. Helsinki: Suomen Rakennustaiteen Museo. 27.
[200] Norberg-Schulz, Christian. 1996. *Nightlands: Nordic building*. Cambridge, Mass: MIT Press.,59.
[201] Lundberg, Erik. 1978. *Svensk bostad: dess utveckling och traditionsbildning, dess förhållande till utländskt samt dess egenart och framtida möjligheter*. Stockholm: Norstedt och söner.
[202] Norberg-Schulz, Christian. 1996. *Nightlands: Nordic building*. Cambridge, Mass: MIT Press., 60.
[203] Mårdh, Per-Anders. 1990. *Röda stugor: [en bok om rödfärgens egenskaper, om recept och tillverkning, om husen och traditionen, om rödfärg idag]*. Stockholm: Byggförl

Gammelstad: Church Town of Gammelstad, Luleå

Map 3 Gammelstad-Luleå in 1994. Source: courtesy of the Gammelstad museum.



Map 2. Gammelstad and its buffer zone.1996. Source: courtesy of the Gammelstad museum.

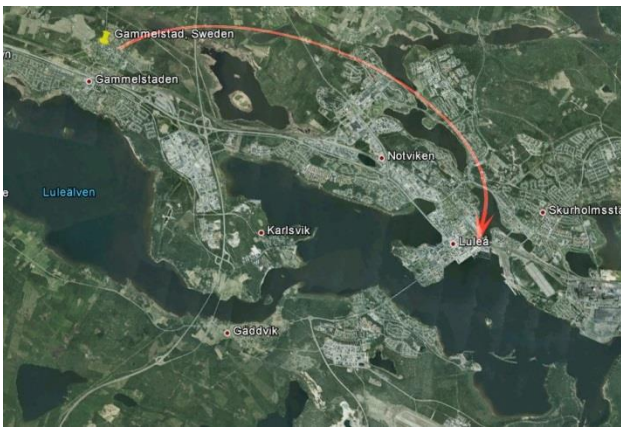


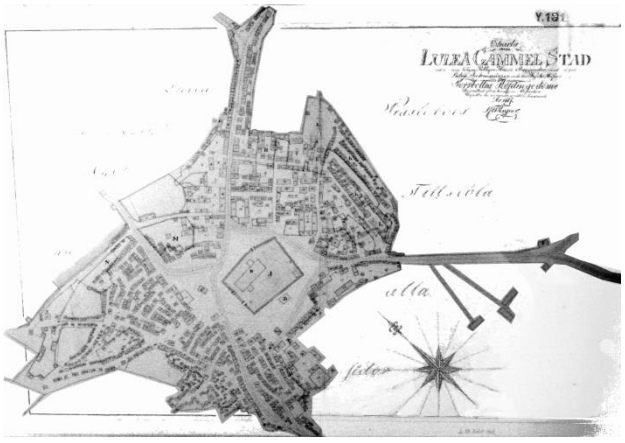
Image 3. Land uplift changed the topography of the area: moving the city of Luleå. Source: Google Maps edited by Anca Dumitrescu

Specificity and Universal Value

Situated in the northern-most-point of the Gulf of Bothnia, Gammelstad –Luleå is an outstanding example of a type of a traditional settlement, and a representative example for the Nordic *church town* phenomenon. It is comprised of outstanding examples of buildings illustrating a significant stage in human history[204]. The town of Gammelstad has its origins in the 12th century, but can be considered as a *church town* only beginning with the 17th century. The town has an Outstanding Universal Value in relation to the 17th century, and its authenticity can be measured in relation to that moment, although some of the historic layers are much older. Of the 71 church towns existing in Sweden only 16 are left today, Gammelstad with its 408 cottages is by far the most ample. In terms of the historic layering, there are three distinct areas. The medieval town with the church at its core, surrounded by the wooden red houses is the oldest surviving layer. Although in terms of shape and size most of the houses are similar, the main differences can be found in the decorative elements – mainly doors and window frames.

Identity

Image 5. The beginnings of Gammelstad. Model housed at Gammelstad museum. Image: Anca Dumitrescu 2011



Map 4. Gammelstad-Luleå in 1817. Source: Gammelstad museum 2011

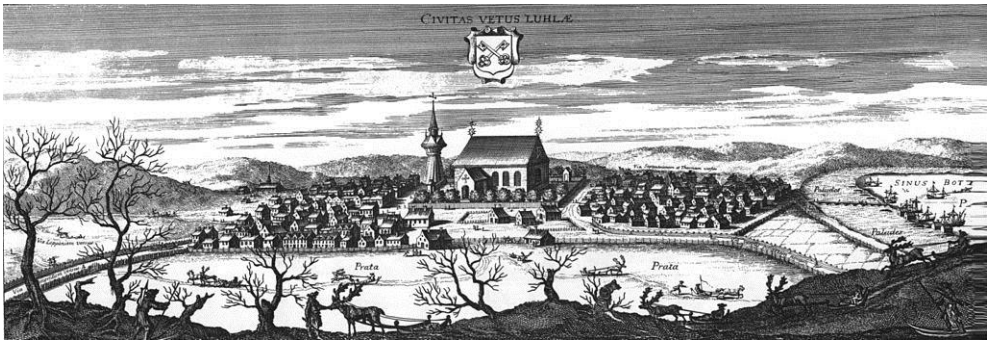


Image 4. Gammelstad-Luleå 17th century. Etching Source: Dahlberg, Erik. Svecia Antiqua et Hodierna, facsimile, 1983

[204] UNESCO Advisory Body Evaluation. 1996. http://whc.unesco.org/archive/advisory_body_evaluation/762.pdf (accessed August 15, 2011)

Just as the terminology announces the most important element of the settlement, the core which generated around itself the architecture and thus the development of the entire area is the church. The exceptional importance of the church within the area and its community is also reflected in its physical and functional continuity throughout the centuries. Nowadays, as the initial function of the town becomes more and more touristic, the remaining element which keeps the functional continuity and coherence of the place is the church.

The *church town* is not an actual settlement in terms of dynamics and permanent dwelling, as it usually lacks all the typical representative and administrative bodies aside from the religious, and was intended for weekend and festival-related usage. Rather the term refers to the settlements shaped around a church that were meant to house people in their mandatory and periodic pilgrimage to places of worship. The main reasons behind the town's existence are the religious and social needs of the people. The Swedish law compelled its citizens to periodically attend religious service[205]. As distances were long and the churches were scarce in the North, the number of mandatory services and their frequency was proportional with the distance to the nearest church[206]. Gammelstad parish was covering a large area with over 47 villages and 400 farms[207], which made it impossible for the churchgoers to travel to church and attend service in

Image 6. Natural environment of Gammelstad-Luleå. Picture by Lars Johansson. Available at www.lulea.se

[205] After the break from the Catholic Church in 1527, the Lutheran fundamentals became increasingly important for the communities, followed that, by 1681 the church services had become compulsory. Before the apparition of the *kyrkstäder* (Church Towns), the frequency of mandatory services citizens had to attend was influenced by the distance to the nearest church: every Sunday for those living within a 10 km radius from the nearest church, every 2 weeks for those living within a 10-20 km radius, once every three weeks for those living within a 20-30km radius. Bergling, Ragnar. 1964. "Summary in English." In Kyrkstaden I Övre Norrland. Kyrkliga, Merkantila Och Judiciella Funktioner under 1600- Och 1700-Talen., 368–373. Uppsala: Skytteanska Samfundet.

[206] Ibid.

[207] Anker, Leif, and Ingalill Snitt. 1998. Our Nordic Heritage: World Heritage Sites in the Nordic Countries. Edited by Stephan Tschudi-Madsen. KOM Forlag.

the same day. Therefore the scheme adopted by many was to build shelters or small cottages in the vicinity of the church where, together with their families, they could rest and spend the night while attending High Mass or other religious services. In time, Gammelstad became a meeting place where people from different villages could interact and get involved in different activities, and so the *church cottage* became the first recreational building in modern terms[208].

The identity of the town is recognisable, but as more and more houses are being used exclusively as museum exhibits, the need to keep their material authenticity increases. In the last decades, some of the traditional materials used for roofing or for the window panels have been replaced with modern ones, thus devaluing the overall image of the place.

Relation with the Natural

As with all Nordic sites, Gammelstad has a peculiar and interesting relationship with the nature around it and with its contextual environment in general. The relation between the people, earth and the sea was a complex one as it deeply influenced the development of the town. The first form of settlement was generated by the fur and fish trade in the area. In the 14th century when the area was first established as a trading centre in the North, the sea level was about 7 meters higher than today and the present day Gammelstad was a small island. The economic activity as well as political disagreements between Sweden and Russia in terms of where the borderline should be placed prompted the building of the first wooden church in the centre of the area in 1339[209]. In 1492 the economic prosperity allowed for the building of a stone church, which still dominates the town, and in 1621 the town of Luleå was recognised[210]. The change of status between village and town was due to economic factors rather than urban or architectural ones, as the 16th century Swedish legislation stated that trade should be limited exclusively to those towns where this activity can be controlled and taxed[211]. The relation with the sea influenced the development of the town not only because of the trade, but also in terms of architecture and urban growth. By 1649 the sea level had dropped to the point that the old harbour could not be used any longer, and so the harbour and the town itself

Image 7. Functional layers in Gammelstad. Photo by Anca Dumitrescu 2011

[208] "World Heritage Gammelstad Church Town." 2010. www.lulea.se/gammelstad. Last accessed March 2014
[209] "The History of Gammelstad." 2012. Visitor Centre, Gammelstad. http://www.lulea.se/omkyrkstaden/gammelstadshistoria.4.634a7f7d11953a781328000176.html.
[210] UNESCO Advisory Body Evaluation. 1996. http://whc.unesco.org/archive/advisory_body_evaluation/762.pdf (accessed August 15, 2011)
[211] The tax reforms of Gustav Vasa with the continuation, in the 17th century of the trade rules promoted by Gustav II Adolf, and which divided the cities between stapelstäder with staple rights allowing foreign trade, and uppstäder where only domestic trade was allowed.

were shifted nearer to the coast.[212] The old part of the town – Gammelstad - kept almost exclusively its religious functions, as the trade and public functions were moved to the new town of Luleå. This duality of the historic – religious town and the new – economic town defines a rupture from the viewpoint of the visitor. Although the two towns represent the same community, they fail to function together as a whole, and there is a risk for them to break further apart due to different development policies. Gammelstad may soon become the historic- satellite museum of Luleå.

Continuous use

There is no conflict in terms of continuous usage of the town of Luleå, as it has always developed and followed the economic trends of the area. Gammelstad – the old town– has always been used in a cyclical manner, and has never functioned as a regular 'living city'. Even as a tourist attraction the old town could retain much of its functional dynamic, and thus the functional change should not pose a significant threat to the exiting values.

Without any major changes to the historic core and its dynamic, Gammelstad first became a tourist attraction in the 1960s, and the rise in market value of the area led to increasing interest and desire to repair and maintain the cottages. If anything, bringing this historic town in the attention of the public is what saved its integrity.

Image 8. Museification in Gammelstad. Author Anca Dumitrescu 2011

Management and protection tools

The case of Gammelstad is interesting because there has been carried out an analysis which nominates all the other monuments sharing the characteristics and values that ensured the classification on the World Heritage List. It also considers the reasons for choosing this site over all the others. The comparison process proves that in relation to the other historic monuments having similar characteristics, Gammelstad has a significantly greater value. In relation to a particular moment of history, the

[212] Anker, Leif, and Ingalill Snitt. 1998. Our Nordic Heritage: World Heritage Sites in the Nordic Countries. Edited by Stephan Tschudi-Madsen. KOM Forlag. p.236

"outstanding" has been proven, and can be re-assessed with ease. Aside from being a very interesting analysis stating the "points of parity" and the "points of difference"[213] between similar monuments, the study sets the basis for the elaboration of a possible touristic circuit that could potentate the entire area. Therefore Öjebyn, Lövågner, Skellefteå and Gammelstad could be included in a circuit that would lessen the touristic pressure on the UNESCO site, and help develop the entire area. The criteria differentiating the four sites were the age of the monuments, the integrity and coherence of the area, the authenticity of the architectural elements, the authenticity in setting, the authenticity in use, the identity, and the span of the area. Since Gammelstad still possesses the biggest medieval church, the highest number of "church-cottages" still in use, and still retains some of the original function of the "church town", it was considered most valuable.

Opportunities and threats

Gammelstad is an outstanding example of a type of a traditional settlement, representative for a culture, and comprised of outstanding examples of buildings illustrating a significant stage in human history[214].

By preserving the built elements, we can ensure that future generations will receive this testimony of a significant stage of human history. However, the traditional settlement is strongly marked by the way the town works and is articulated, by its functional dynamic, which is at risk. The church itself is still in use, as well as some of the cottages situated further away, which are still being used as summer cottages and week-end retreats. However an important number of cottages in close relation with the church are no longer in use, and their sole purpose is to sustain and to complete the ensemble's integrity. The need to keep the material authenticity of the place is inversely proportional to the dynamic of use. Especially in the case of historic urban landscapes there is a constant contradiction and tension between the need to change and develop the "living city" and the desire to preserve the authenticity in substance of the heritage. The fine balance between compromising the authenticity for the sake of the utility and museifing a living community for the sake of its historic values has to be carefully managed. As long as the city is 'living' a certain amount of change is permitted and even recommended. Should the functionality and dynamic of the area be lost to the point where only its function as a museum is maintained, there will be a need to preserve all of the material authenticity of the place –which in the case of wooden towns can become very problematic given the perishable nature of wood.

The site did not benefit from a management plan until 2008[215], and the local authorities and inhabitants managed the site themselves by means of constant maintenance in relation to the

[213] In marketing, the points of parity (POPs) are defined as attributes not necessarily unique for the brand but may be shared with other brands but are the necessary condition for brand choice. The points of difference (PODs) are the attributes strongly associated to a brand, which cannot be found in the same extent with a competitive brand. Kotler, Philip, and Kevin Keller. 2011. Marketing Management. 14th Editi. Prentice Hall. P. 280-282. These become relevant when discussing the World Heritage Sites as touristic resources, as branded places. In this case the O.U.V. can be considered the equivalent of the PODs used in marketing. In a comparative analysis of the wooden World Heritage Sites of the North, both the common traits as well as the uniqueness of each site become fundamental analysis criteria, just like the PODs and the POPs in a comparative marketing analysis.

[214] Criteria (ii), (iv), (v) as defined by the "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines.

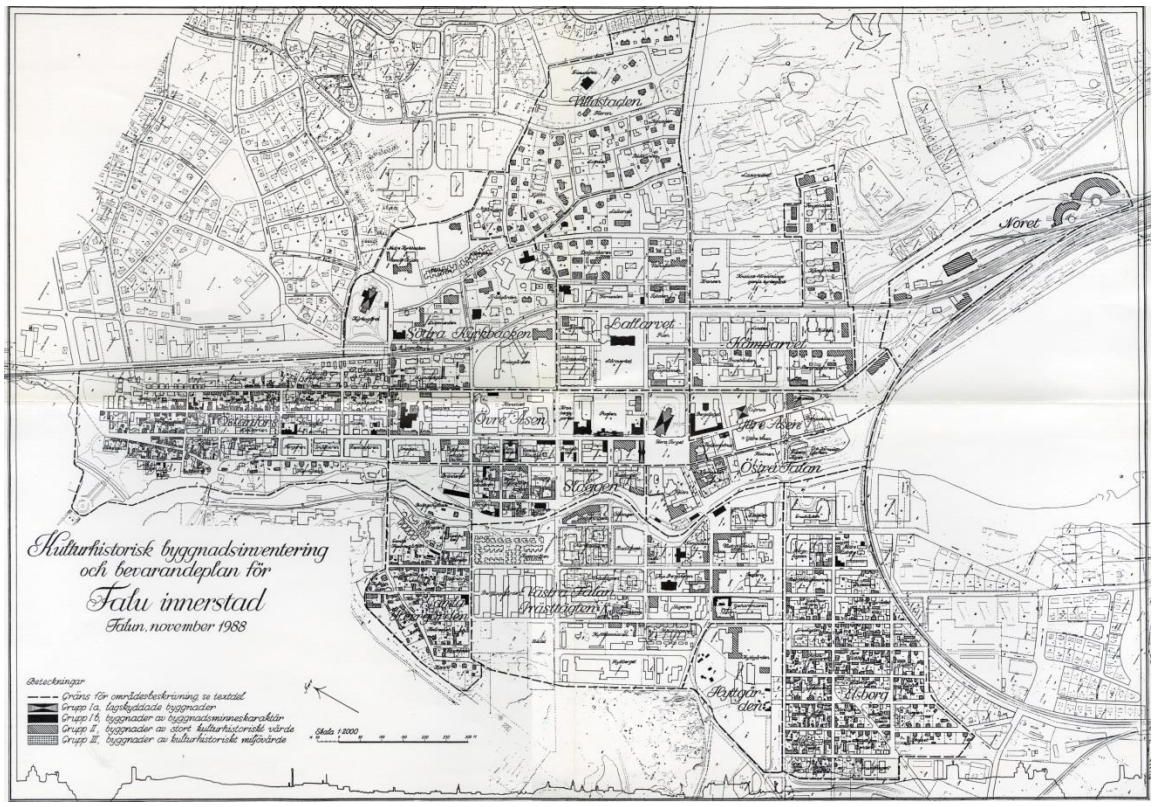
[215] "Gammelstad Church Village - Yesterday, Today and Tomorrow. Management Plan for Gammelstad Church Village 2008- 2013." 2008. http://www.lulea.se. Last accessed November 2014

Local Urban Plan. The need for the elaboration of a management plan appeared more stringent as the area became more of a "monument" and less of a "living town". Since 2008 major improvements have been made, both in terms of site management, as well as raising awareness. A number of successful projects have been carried out in order to make information about the site more widely available. Still the problem of decreasing traditional use remains.

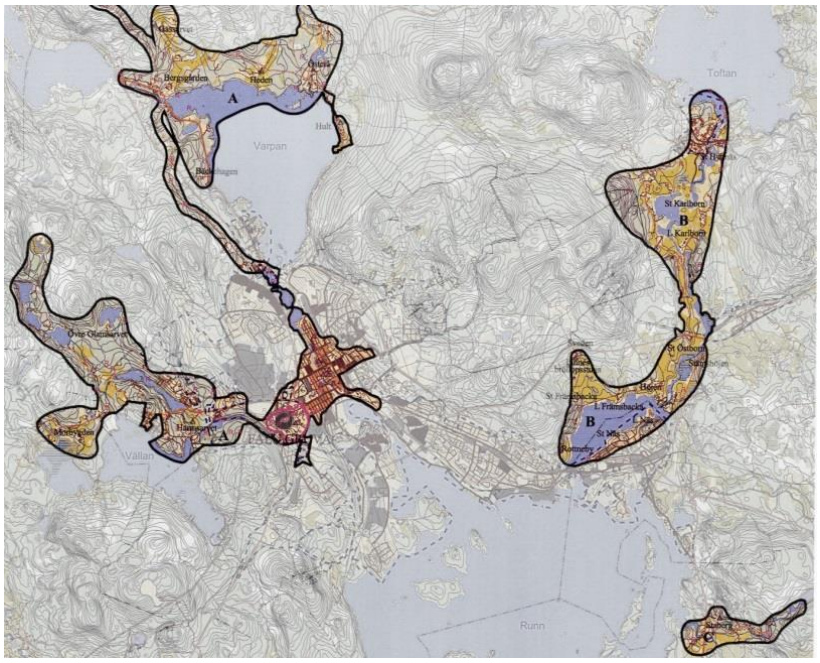
The major benefits from the enlisting of the site as a World Heritage Site are the increased international awareness that triggered economic benefits, thus giving a higher priority to the conservation of the site and its values, and a better management and interpretation policy.

Falun: Mining Area of the Great Copper Mountain in Falun

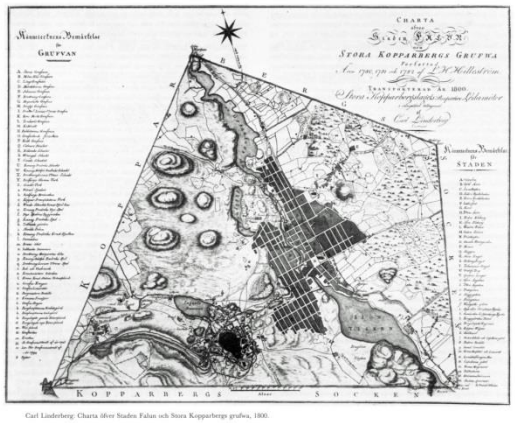
Specificity and Universal Value



Map 6 Falun in the year 1988. Source: Scandinavian Atlas of Historic Towns: Falun, Sweden. University Press.1992



Map 5. Falun protected area and buffer zone. Source: http://whc.unesco.org/en/list/1027



Map 7. Falun in the year 1800. Source: Scandinavian Atlas of Historic Towns: Falun, Sweden. University Press.1992

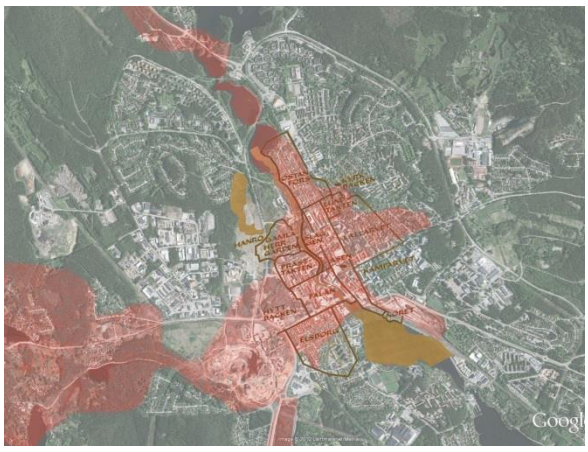


Figure 5. Historic districts and protected area in Falun

Inscribed as an UNESCO site in 2001 as an industrial site[216], Falun is the exponent of important interchanges of human values, mainly between Sweden and Germany, over a span of time of over 200 years, mainly concerning the developments in the technology of mining. The site is profoundly relevant for the mining industry, especially the production of copper starting with the 17th century.

In terms of cultural tradition, it stands for the mining tradition that developed in the North starting with the 9th century and developed up to the 20th century, thus bearing an exceptional testimony of a cultural tradition that has disappeared[217].

It is said that the Great Copper Mountain, being organised in the 14th century as a corporative operation, represents the oldest company in the world[218]. Its relevance exceeds the limits of architecture as it represents a cultural landmark for the development of the world's economy and mining techniques.

The dialogue between different cultures, essential for UNESCO sites, is represented in Falun mainly by contacts between Sweden and Germany in terms of knowledge exchanges and mining techniques developments started with the 14th century. In terms of social and cultural contacts, Falun established relations with officials from all over the world, including France, England, The United States of America and China.

Identity

The **entire cultural landscape** was shaped around the Copper Mine itself, which provides identity and *a raison d'etre* to all that surrounds it. It is safe to say that this Nordic Wooden Town is a

[216] The Mining Area of the Great Copper Mountain in Falun, Nomination file, 2001, available on http://whc.unesco.org/en/list/1027/documents/
[217] Ibid.
[218] Stora Kopparberg first mentioned in 1288: Jutikkala, E, O Degn, N Ahlberg, T Hall, P Tuxen, S Jónsdóttir, M Bach, P Strømstad, B Ericsson, and Dansk Komité for Byhistorie. 1992. Scandinavian Atlas of Historic Towns: Falun, Sweden. Scandinavian Atlas of Historic Towns. University Press. P.5

mining town comprised of different layers of significance over a span of more than 7 centuries. The earliest accounts of Falun, such as the dissertation of the map engineer Olof Naucler, focus on the atmosphere and character of the mine, with its dark shafts and galleries, as well as the atmosphere of its surroundings, with the sulphurous fumes and furnaces. The landscape was completely transformed by the fumes, as no vegetation could grow within 3 kilometres around the mine itself.

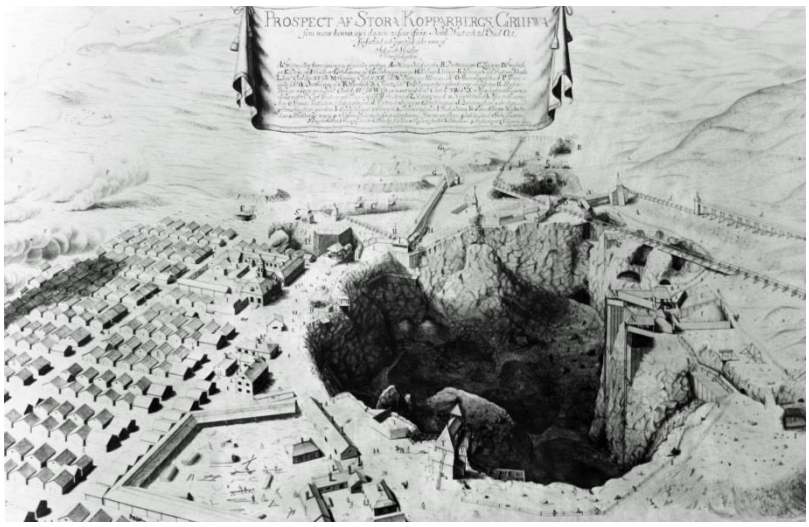


Figure 6. The mine as dominant feature. Source: Scandinavian Atlas of Historic Towns: Falun, Sweden. University Press.1992

The layers of history reach the 9th century A.D.[219] although the oldest surviving document dates from the 1288[220].

The mine is the focal point, the generator and the element that provides identity to the entire area. Although it is believed that crude mining operations began as early as the 9th century, the first charter proving the grouping of human settlements around this core dates from 1347[221]. Comparable to Røros in Norway, Falun depicts a different history, development and character. Its current character and appearance, with its 350x300m wide and 90m deep open pit, is due to a landslip in 1687. The landslip produced no casualties and the event was included in the local heritage of myths and stories, together with the story of the petrified "Fat Mats", the Falun sausage and with the Falun red paint. The mine shafts and galleries span over 400m below ground, of which only about 600m -concentrated in 60m of height difference - are now open to the public. The relation between the city and its identity core element became doubtful ever since the mine was turned into a museum. The contrast between an under-used mining museum and its surrounding "living" urban structures, in active use risk devaluing either one of these poles.

The traditional human settlement that it represents –the wooden town of Falun – has maintained its characteristic and the 1646 layout only in a few areas of the city, in the three historic districts of Gamla Herrgården, Östanfors and Elsborg. Altogether there are 150 buildings protected as monuments in Falun. The historic districts were spared from the fires that affected Falun in 1760 -1761[222]; their vulnerability under the impact of irreversible change is indisputable,

[219] UNESCO Nomination File. 2001. http://whc.unesco.org/uploads/nominations/1027.pdf (accessed August 15, 2011)
[220] Purchase document of a one eight share in the Copper Mountain by the bishop Peter Elofsson; Ericsson, Birgitta, and Thomas Hall. 1992.Falun. Stockholm: The Institute for Urban History., 5.
[221] Charter issued by King Magnus Ericsson; Ericsson, Birgitta, and Thomas Hall. 1992.Falun. Stockholm: The Institute for Urban History., 5.
[222] Jutikkala, E, O Degn, N Ahlberg, T Hall, P Tuxen, S Jónsdóttir, M Bach, P Strømstad, B Ericsson, and Dansk Komité for Byhistorie. 1992. Scandinavian Atlas of Historic Towns: Falun, Sweden. University Press.

as the layers of the city become harder to distinguish and the identity of the place becomes blurred and engulfed in what can be considered the contemporary city.
On the other hand the wooden houses of the residential districts of Falun that still retain characteristics of the 15th, 16th and 17th century, have yet another strong point in their continuous use.
Hence the paradox that since one of the strong points of these three districts resides in their continuous use, over-protecting the area and turning it into a museum is not a solution, and the coherence of the place remains at risk.

The relationship between the manor houses and estates situated at a distance from the core of the city and the mine is also blurred by the subsequent development of the city. Nowadays these estates are usually perceived as rather belonging to the agrarian landscape than to the industrial one.
In terms of restoration and conservation practice, there is a problem concerning the usage of traditional materials and building techniques.

Kopparbergslagen represents the entity of the cultural landscape formed around Falun and in relation with Copper mining. It began taking shape around the 16th century when copper exploitation began developing on a large scale in Sweden. By the 17th century over two thirds of the world's copper production originated in this area[223]. In the 17th century roofs for European palaces, churches, manor houses, as well as Spain's copper coinage were made from Falun copper thus economically enabling Sweden to become one of the leading states of Europe[224]. The built environment is completed by the natural landscape domesticated by dam lakes, canals and dikes.

Relation with the Natural

Image 9 Natural environment of Falun. 2011 Source Google Earth: http://www.panoramio.com/photo/57535874

The relation with the natural context, so important for the Nordic countries, is in this case more sharp and contrasting. Mining operations and copper exploitation in close relation to the worker's residential districts constituted polluting activities that did not allow nature to cohabit

[223] UNESCO Nomination File. 2001. http://whc.unesco.org/uploads/nominations/1027.pdf (accessed August 15, 2011), 12.
[224] Idem p.5

with the industry. Therefore the clear distinction between nature and the man-made, although specific for the place and in accord with the "*genius loci"*, was not sought-after by the people themselves. The centre of Falun and the Copper Mine gained their identity in relation to the functional needs of the place rather than to the spiritual needs and desires of the people. Furthermore, the manor houses that belonged to wealthier people were positioned a lot further from the mine itself, and managed to retain their "specifically Nordic" relation to Nature.

Continuous use

In terms of **continuous use**, the mine itself together with all the mining operations was closed in 1992, when all the viable deposits of ore had been exhausted, thus turning the core of the town into a touristic attraction. Gathering over 60 000 tourists annually, the Falun Copper Mine shifted from the copper industry toward the tourism industry, severing a 800 year old history of continuous use[225]. The old mine itself has been a touristic point since 1824 and has been functioning as a "visitor's mine" since the 1970s but in terms of actual usage only about 15% of the mine area has ever been open in its history for touristic purposes[226]. Currently the Mine itself has no function as only about 10% is open as a museum[227]. The housing areas retain some of the historic identity, and given the fact that the main function of the place has been kept, they have been integrated as functional and historic layers in the contemporary city. The risk in their case is that by allowing for change to take place, coherent historic residential areas have become fragmented and dissociated from the city's initial core –the Mine- and thus the meanings associated to the place risk becoming diluted.

Image 10. Use value and authenticity in atmosphere Falun. Picture by Anca Dumitrescu 2011

Although the Outstanding Universal Value of the Falun Mine, or the identity of the place cannot be disputed in terms of value or universal relevance, the continuous use of the entire protected area as well as the status of ***living historic city*** can be considered subjects of debate. It is unquestionable that the values and identity of Falun as one of the most important industrial and mining centres of the 16th and 17th centuries constitute a cultural landmark of Europe and of the World. From today's perspective the cultural elements possessing historical and cultural values as well as having a contemporary usage different from that of a museum, do not articulate in a coherent unity of what we would call a town. In that sense, the lack of functional diversity and connections of the historic elements as well as their fragmentation and dispersion in the territory makes the town of Falun a "layered city" but not a coherent continuously developed "living historic town".

[225] Idem p.6
[226] Ibid.
[227] Estimation based on information presented on http://www.falugruva.se/

Management and protection tools

In terms of ***authenticity and integrity***, the report submitted to UNESCO does not analyse the protected area under all possible aspects. As historic authenticity is a concept that has to be judged and interpreted in a layered manner, the general statement that all the historic traces are truthful to their moment of creation and are "very palpably present in both the landscape and settlement"[228] seems insufficient. Authenticity[229] is a much broader concept, referring not only to the truthfulness of the historic material in relation to different aspects such as age and historic substance, design, workmanship, setting but also to the way in which all of the above are understood by the inhabitants and users. Integrity is another concept that can be interpreted and judged in multiple ways. The intactness of the mine works, galleries and shafts, gear and equipment, dwelling houses and ancillary facilities can be established only in relation to a specific moment in time. It is obvious that because of change and layering, the intactness of the mine in relation to the 13th century has been lost in a large proportion. Furthermore, integrity[230] is a quantitative concept, and as such it is often hard to determine exactly what "*well preserved*" and "*intact*" means in relation to the integrity of the monument. From the perspective of the inhabitants and users integrity also refers to accessibility, as it is hardly relevant for the user if 90% of the entire mine has been kept if one can see, experience and evaluate only 10% of the 15th century historic layer.

Integral and authentic does not also mean coherent[231]. In terms of atmosphere and feeling of a place, it is also important how the added layers of history and significance fragment the perception of the place. In the case of Falun the development and the historic layers added to the historic core made understanding the connections between the homesteader estates, natural context and the mine more difficult to understand.

In terms of conservation and promotion of the world Heritage site, a lot of measurements have been taken, from "sympathetic restoration"[232], repainting the façades, to development of programs related to the presentation and promotion of the property.

The management plan of Falun sets the setting and clarifies the issues involved in the protection of the site from multiple perspectives[233]. It tackles both the theoretical and general issues in relation to this piece of heritage as well as the practical ones. The document elaborated and presented to UNESCO clarifies the issue of "dealing" with the monument starting with the general, by addressing aspects such as the existing legislation and instruments for protection, setting the terminology in accordance with both UNESCO and the Swedish laws, defining the legal

[228] UNESCO Nomination File. 2001. http://whc.unesco.org/uploads/nominations/1027.pdf (accessed August 15, 2011), 15.
[229] UNESCO Operational Guidelines for the Implementation of the World Heritage Convention. 2008. http://whc.unesco.org/archive/opguide08-en.pdf (accessed September 1, 2011).
[230] "Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes"; UNESCO Operational Guidelines. 2008., 33. art.88, http://whc.unesco.org/archive/opguide08-en.pdf (accessed August 15, 201)
[231] Although coherence can be linked to integrity understood as "*unitá potenziale"* Jokilehto 2010: 47, according to "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines. The integrity of a site is "a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes.", which is not equivalent with coherence defined as understandability or legibility.
[232] UNESCO Nomination File. 2001. http://whc.unesco.org/uploads/nominations/1027.pdf (accessed August 15, 2011)., 29.
[233] Idem, p 23-37

frame and procedures applicable to monuments in general, and ending with the particular case of Falun, by analysing what are the main objectives in relation to the site and which are the responsible authorities and people for each set of actions described. The importance of the management plan is not only that it sets a number of reference points in relation to the conservation of the area, but it allows the reader to understand that the problem of dealing with heritage is a lot more ample and goes well beyond the limits of architecture. It thus becomes clear that dealing with a monument of this size and complexity requires a multi-disciplinary team of antiquarians, experts on conservancy, environmentalists, surveyors, urban planners, traffic planners, architects, engineers, researchers, archivists and librarians, economists, and so on. The management plan combines the theoretical, legislative, and practical issues involved when dealing with a World Heritage Site, and although it should be a multi-disciplinary tool involving experts from multiple fields, it is an invaluable tool in the hands of the architect, because it primarily analyses and influences the development of the architectural heritage.

The impact assessment is considered fundamental in defining factors affecting the property and in preventing irreversible damage from taking place. The care, protection and preservation of heritage values extend beyond the limits of architecture, but an overall understanding of the entire process is absolutely essential.

Opportunities and risks

Image 11. Fragmentation in Falun. Picture by Anca Dumitrescu 2011

The logic and direction of development in Falun tends toward the fragmentation of the old core and the integration of the new and old layers within the same city. Keeping and maintaining the Outstanding Universal Values evaluated in 2001 unchanged for all the elements of the cultural property means stopping the development process and its integrating tendency. Enlistment on the World Heritage List promoted the area and the city, triggering the very process of development that poses risks to some of the values considered. Furthermore different constitutive elements comprising the cultural property have different dynamics of change, and different needs. The core of the area tends to be "museified" whereas the residential historic areas tend to be engulfed by the newer layers. The UNESCO policy of keeping the Universal Values unchanged amplifies the conflict between the dynamic living city and the preserved protected areas, encouraging Falun to become ever more touristic. The rupture caused by an over-rigid protection policy modifies the values, properties and original enlistment criteria. What was perceived at a specific moment as

being a coherent representative settlement might develop into a fractured multi-polar city establishing weak connections with its context. The periodic UNESCO report state whether the initial Universal Values have been kept, or whether the criteria for enlistment is still valid, but it has no assessment of potential risks, which particularly in the case of Falun poses significant threats.

NORWAY

The log construction, together with stave construction, finds its specificity in Norway as well as in all the other Nordic countries, as yet another reminder of the fact that building techniques are first and foremost an expression of what can be considered basic functional and elementary spiritual.

The first Norwegian towns[234] were established later than their Swedish and Danish counter parts, and were initially established as market places. The urbanisation process that accelerated in the 12th century had mainly economic incentives, but the natural context, the connections with the water and the main transport routes played also an important role. In the 17th century these primarily economic trade centres had privileges in relation to the timber trade[235] which makes timber an easily obtainable, easily workable product that also acted as currency. Its availability, economic value, ease of use, physical properties and optimal behaviour in the Nordic climate, made it the preferred building material. Wooden architecture and its impact on the city might have originated in the close relationship with the nature, in the availability of the material, in the economic context of the times, in the spirituality of the people that used it. Most importantly it generated an environment and a sense of place specific to the North, related to its natural context and which is consistent as a phenomenon on a regional scale.

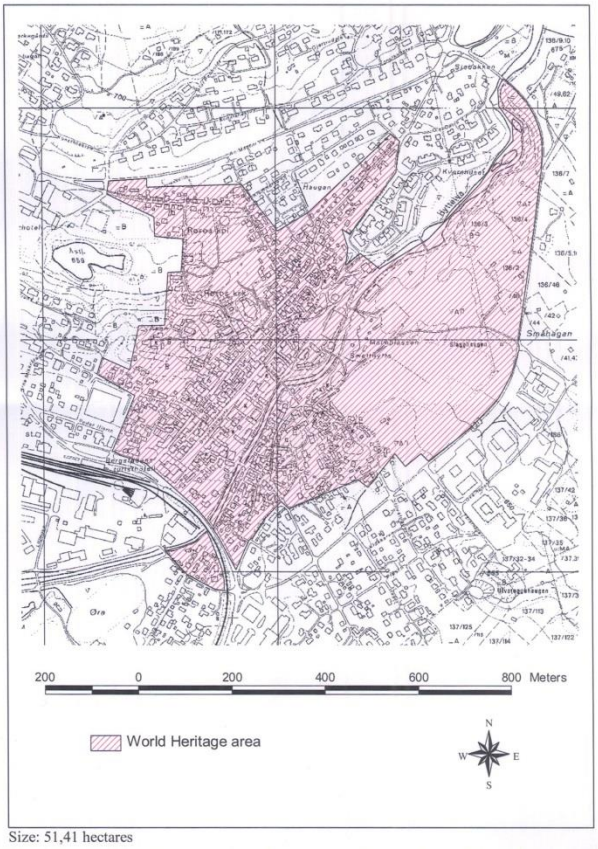
In the south of the country where the freedom of expression in connection with wooden architecture meets economic prosperity and external stylistic influences, the "spiritually specific" makes room for the representative and imposing. The phenomenon of the wooden architecture is still present in this urban context, but it receives foreign influences, which make the *purely local* less distinguishable.

Norway has two World Heritage wooden settlements, Røros mining town and Circumference and the Bryggen district in Bergen, sharing tradition but being greatly differentiated by the influences they received. Of the two Røros is a proper wooden town, while Bryggen is the old wharf of Bergen. This is the main reason why only Røros will make the object of the study.

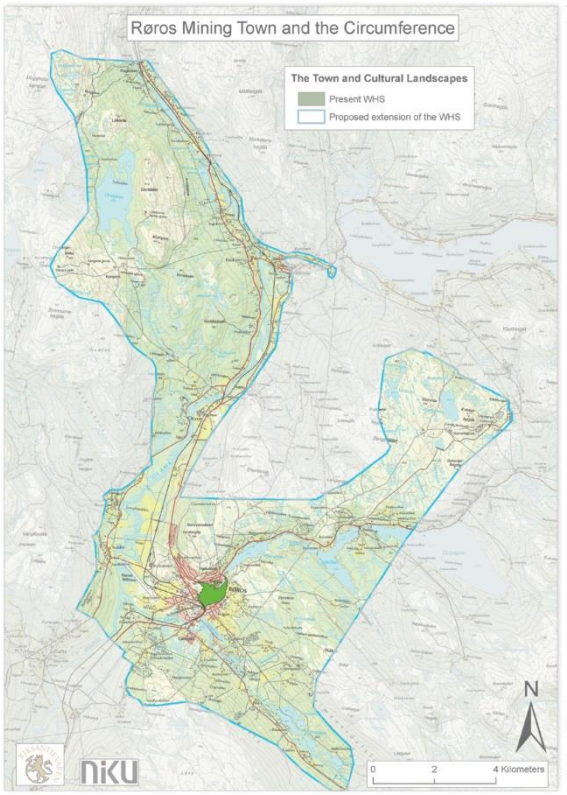
[234] Gutkind, E.A. 1965. *Urban Development in the Alpine and Scandinavian Countries*. (N.y. : Free Press, 1965). 345-349
[235] Idem p.348

Røros: Røros Mining Town and the Circumference

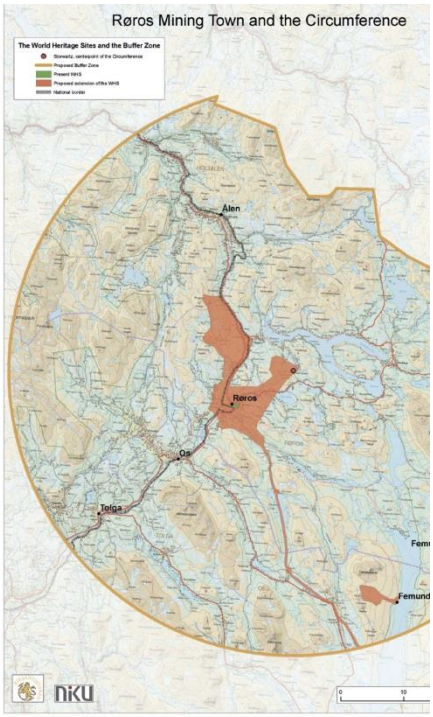
Specificity and Universal Value



Map 10. Røros and its initial protected area as specified in the UNESCO nomination file. Source: http://whc.unesco.org/en/list/55/documents/



Map 9. Røros mining town and the circumference, proposed extension for the protected area as specified in the UNESCO nomination file. Source: http://whc.unesco.org/en/list/55/documents/



Map 8 Røros mining town and the circumference, and the buffer zone as specified in the UNESCO nomination file. Source: http://whc.unesco.org/en/list/55/documents/

In terms of Outstanding Universal Value, Røros stands out not only as a Norwegian mining centre, but also as a compact and coherent wooden town, an outstanding example of human settlement in terms of architecture, urbanism and relation with the surroundings and the environment. It is one of the few towns that can be accurately analysed as a purely "wooden town" since all the structures are almost exclusively made of wood. This material characteristic provides a criterion for further analysis, and allows for a better understanding of the timber building techniques used in the North, but should not be perceived as constituting a value in itself. Wooden towns in the North can be analysed having wood as the common element in terms of techniques, development, typologies, and ways of life and so on, but they cannot be deemed valuable solely **because** of its use.

In Røros the protected area itself is considerably larger than the town and it also contains the industrial transport routes, industrial cultural landscape with multiple industrial sites around the town, and the relevant parts of their natural setting.

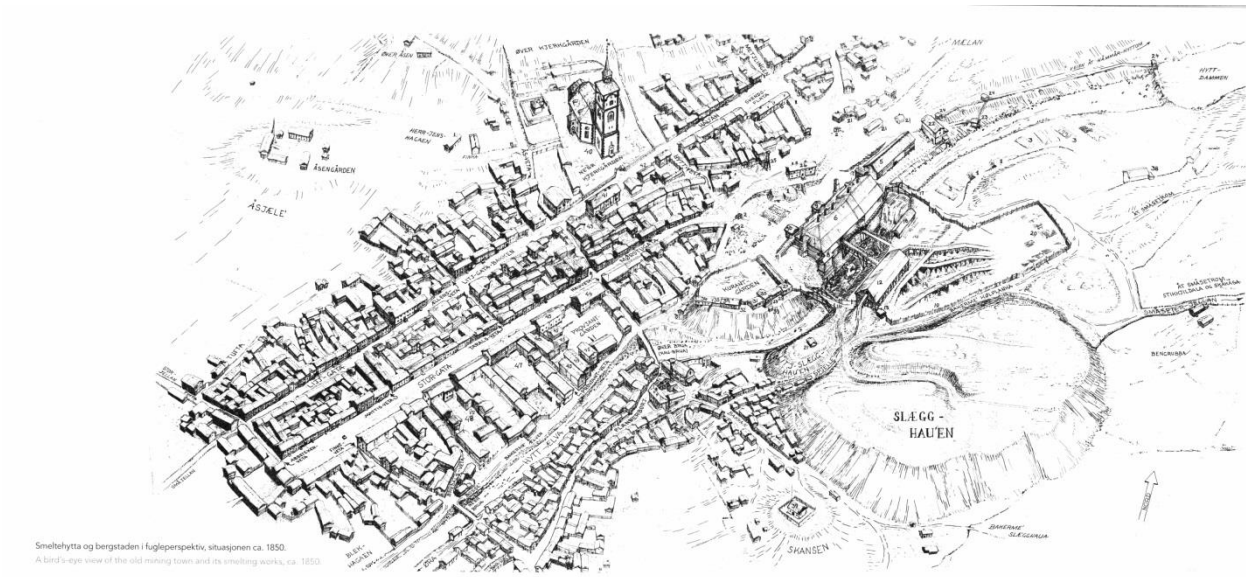
Map 11. Røros plan in the year1850. Source: "Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum.

Identity

The identity of this town is primarily given by its core and generating element – the copper mine. It is a site similar in many ways to Falun, but there are a lot of elements that differentiate the two. The value and typology of the architectural elements of Røros makes the wooden town of Røros a stronger exponent of Nordic architecture.

The mine began being exploited in the 1640s and represents the identity and focal element of the area[236]. Unlike Falun, Røros does not place the mine in the centre of the town, and as such, the mine has more of a virtual influence as an element of identity rather than a physically constraining presence.

In terms of social relationships and human interactions in the mine, accounts from the workers help define some of the differences between the character of Falun mines and Røros mines. In the case of Falun work was carried out in a more extensive and intensive manner, fore showing the first corporate model[237]. In Røros the environmental conditions were a lot more



Map 12. Røros axonometry, 1850 with the slag heaps as dominant element. Source: "Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum.

hostile, the workforce was limited and the workers usually bonded in more close relationships. There are numerous stories about the workers being like *a family* perhaps because whole families including children used to work in the mines[238], but also because men working together in relatively small groups established very strong bonds. The community was strong and united to the point where events such as the ones leading to the story of Falun's "Fat Mats" would be

[236] UNESCO Nomination File. 1980, 2010. http://whc.unesco.org/uploads/nominations/55bis.pdf (accessed August 15, 2011)
[237] Gutkind, E.A. 1965. *Urban Development in the Alpine and Scandinavian Countries*. (N.y. : Free Press, 1965).450
[238] "Child labor was first introduced in the 1680s. 10-12 year old boys were in the summer put to rinse the ore." Røros Olav Mine Museum exhibition, http://www.verdensarvenroros.no/museet_olavsgruva_en/ , (visited August 5, 2011)

inconceivable. In Røros it would have been impossible to simply disappear into the mine, and "reappear" after decades, as everyone knew of everyone else's whereabouts at all times.

Image 13. Atmosphere and context of Røros1897. Source: Røros museum.

Image 12. Natural environment of Røros. Picture by Anca Dumitrescu 2011

The wooden town: was formed together with the beginning of the mining activity, adjacent to the first smelting works, in the 1646.[239] However, it was completely burned down in 1679. The area's present-day buildings show the specific architecture from the 18th and 19th century as well as some elements belonging to the following historic layers. The urban layout showing "traces of Baroque town planning with false perspective and focal points"[240] is a testimony of the Danish industrial planning of the 16th and 17th century, adapted to the rough topography. The town itself is considered to have Outstanding Universal Value as a characteristic example of a traditional kind of human settlement built according to traditional methods of construction. One of the most important features of the settlement consists of the relation with the environment, especially in terms of climate. Its inland northern position and its relative height in relation to the sea level make it subject to very long winters with extreme temperatures – with records below -50 degrees[241]. The rough climatic conditions determined a certain typological and architectural response, and thus gave further identity to the town. The town was surrounded by fields, cultivated by the townsfolk since the beginnings of the settlement. The relationship with the agricultural fields surrounding it, defined the activities and ultimately the outlook of the mining town.

The first church in Røros was built in 1650 and was made out of wood. The present structure was built in 1784 over an initial wooden church, and it is the only masonry structure in town.

[239] "Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum. P.35
[240] UNESCO Nomination File.1980 revised 2010. http://whc.unesco.org/uploads/nominations/55bis.pdf (accessed August 15, 2011)., 41
[241] -50.4°C or -58.7°F recorded in January 1914, source: http://retro.met.no

In terms of cultural interaction and dialogue, it has been documented that Røros established relations and was influenced in either technical or cultural sense by Germany, Denmark, Sweden and the surrounding Norwegian districts. The mixture of these influences together with the environmental factors gave Røros its particular character and distinguishable identity.

The town through its coherence and inner relations mirrors the sense of community - another fundamental aspect- characteristic for Røros. This "*free mining town*"[242] had the mining technology as a starting point, but as it was constituted by German, Swedish, Danish and Norwegian immigrants also integrating the Sami population that already lived in the area, it fostered inter-cultural dialogue and connections. Strangely enough the hostile environment encouraged social interaction, urging people to unite against the harsh conditions.

Relation with the Natural

Image 14. Use value in Røros. Picture by Anca Dumitrescu 2011

The special relation with the Natural is shown by the choice in materials, and by the housing typology that reflects the attempts to subdue the adverse climate. Furthermore the urban agricultural landscape, which completes Røros 'identity shows the first steps of the domestication process of the *wild* and bears witness to the miner's dual role as a miner and a farmer.

The mine and surrounding area started to rapidly develop beginning with the 17th century and had been in continuous use until 1977. Although there are evidences of previous settlements, the present –day wooden town dates back to the 17th century.[243] Until 2010 the protection area of the Property was not extensive enough to allow for a full understanding of the dual functional systems sustaining the community. Although the men were primarily involved in the mining activities, the families' subsistence also depended of the farms maintained

[242] UNESCO Nomination File. 1980 revised 2010. http://whc.unesco.org/uploads/nominations/55bis.pdf (accessed August 15, 2011)
[243] "Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum. P.35

mainly by the women. The life style and dynamic of Røros cannot be fully appreciated without considering the satellite farms outside the town. One of the risks faced by today's community is the devaluation and under usage of these outside farms. The change of functions and dynamics within the town modified the relationship with the outside elements, and conditioned a different development of the area. A too rigid and definitive protection boundary and excessively dogmatic regulations can sever the town into pieces of "different importance". Often in case of historic cities there is the risk of differentiated development and loss of coherence following the value discrimination between areas, and thus setting a clear hierarchy is not beneficial. Fragmentation is therefore one of the main potential risks associated with this site.

Continuous use

Røros is one of the most coherent and dynamic living historic towns in the Nordic Countries. The main streets have kept their character and most of the houses are still in use. One of the functional risks that the area is facing is the displacement of the small shops by the supermarkets outside the town. The presence of regular supermarkets or large shops within the historic core would increase the traffic pressure on the historic streets, wider traffic routes for both the traffic and the deliveries would be required, and the usable gross floor area of the old buildings would need to be increased. If the authorities will consider bringing commerce inside the historic area, the necessary changes to the streets and the remodelling of the historic buildings would greatly and negatively impact the cultural values. However if commerce inside the historic area becomes mainly tourism oriented, the streets will become depleted of character and vitality. Therefore a functional analysis should be carried out in order to establish the optimal directions for development in relation to the town's character.

Marking a new historic layer, the museum of Røros bears witness of the mine's closure. The smelting ended in 1953[244], but as its symbol –the smelting house and its surrounding slagheaps - was still in place a certain sense of persistence remained. The community expected resuming the activity, and so the closure of the mine was neither perceived as either "certain" nor "definitive". The moment when the mine truly ended its existence as an industrial site, was 1975 when the original smelting house burned[245]. It is very interesting to observe that in this case the value of use is intertwined with the value of identity, and it was needed for both of them to be affected in order for the mine to be considered "officially closed". The value of use could not be revitalised, and the mine was never to regain its function, but the value of identity was to be saved. Although most farmhouses were carefully restored in the 1950s and 1960s, most houses in the town were modernised or rebuilt during that period, affecting the authenticity of the site. Especially the wooden panelling of the 18th and 19th centuries, the antique doors and windows and to a great extent the interiors were lost in the modernisation process. Today's colour schemes are in most cases a contemporary addition as most historic paints and pigments were replaced by modern variants [246] Another new contemporary layer of significance was added in 1980s, and the smelting house was reshaped as a museum[247]. The restoration process retained all the valuable

[244] Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum. P.35
[245] "In 1975 the building was totally destroyed by fire. The present "Smelthytta" museum has been built up on the ruins of the copper works' last smeltery." Source: http://www.rorosmuseet.no/ last accessed November 2014
[246] Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum. P.39
[247] The Smelthytta museum.

layers: the historic traces of the smelting house and all the related works, the traces and marks of its destruction, and the layer of the new museum architecture.

Management and protection tools

The traditional building techniques and materials are often an issue in relation to the restoration process itself. As a living city Røros should comply with the current building regulations and with requirements, which are not being met by most of the traditional materials. Additionally some of the traditional materials, such as sod and slate are unusable according to today's standards and hard to come by. There is a growing need for a centre focusing not only on training craftsmen but also on producing traditional materials and storing original building parts.

The **integrity and authenticity** of the site are analysed[248] in a more quantitative manner in relation to the historic layering of the city. Structural layers of the 17th and 18th century are clearly readable and mostly intact, but most of the exteriors, both in terms of materials, door and window frames, colour schemes, are post 20 century layers. Røros has been preserved and considered as a whole, so the dynamic and development of the town influenced the entire area without fragmenting it. The layers of functional significance within the protected area are intact to the point where they can accurately reflect the dual occupation of the inhabitants. It is interesting to observe that in relation to the cultural landscape and the general natural context, the integrity of the protected area refers to its ability to convey meaning. In this sense it is no longer important **how much** of the original material – in relation to a specific historic moment – has been kept, but rather it is important whether the initial significance is being kept, whether the message is still easy to read and interpret. Integrity and readability are strongly connected concepts in this case. It is almost impossible to assess how much of the *natural* has been changed in the past three centuries, but it is possible to assess whether the connections within the site are being conserved and whether their meanings are still distinguishable. In this case one of the problems is the new housing developments and the industrial

Image 15. Authenticity in Røros. Picture by Anca Dumitrescu 2011

[248] UNESCO Nomination File, 1980 revised 2010, http://whc.unesco.org/uploads/nominations/55bis.pdf (accessed August 15, 2011)

buildings that appeared on the peripheral land formally occupied by the cultivated fields, thus blurring the demarcation between the historic town and its historical environment.[249] The authenticity is analysed according to all the different criteria including form and design, use and function, traditions and management systems, as well as taking different historic layers as reference. This proves that Røros is a coherent authentic living historic town, which allowed sincere and authentic changes to occur while protecting the identity and values of the place. In their 300 year history the buildings have been extended, received new façade panels, materials have been replaced when needed, but yet they retain their typical details, decorations, façade treatments, which maintains their authenticity. Although authenticity in materials is very important and in case of Røros it has been kept in relation to all the historic layers, the analysis clearly show that change is allowed and often it contributes to the historic stratification. The authenticity of a site is also measured in relation to the spirit and feeling of the place, to the "*genius loci*". This type of authenticity is expressed by the intangible elements of heritage that are kept and enacted. Authenticity and identity are in this case two concepts interlinked.

In terms of **value judgement and managing tools**, Røros has, just like Gammelstad – Luleå, a very well documented comparative analysis, proving the outstanding nature of Røros ' values as well as their universal relevance. Unlike the Swedish analysis, Røros' identity and values[250] are considered at a universal scale – as it is compared with monuments from Germany, U.K., Slovakia, but also Bolivia, Japan, Mexico, Chile or Canada. In this case the role of such an analysis becomes that of demonstrating the site's outstanding value in a Universal context. However, from the monument's point of view, the local context and influences are what gives the place its identity and value. Although bearing significant value at a universal level, Røros' importance is first and foremost given by its position and role in the North. As a mining town with a cultural landscape, Røros is considered to have the highest unity, coherence, integrity and is the best preserved. In terms of character, Røros is considered to have the most intense, extreme and strained relationship with the Natural, from which the place draws part of its identity[251].

What is interesting is that although it is one of the oldest World Heritage Sites in the area, being inscribed in the 1980s, it has one of the least developed and functional management plans. The management plan itself has been elaborated in 2007, but according to the local authorities it is more of a formal tool. In 2011 all the protection and conservation activities are planned following the 1980s preservation plan, and by considering the values identified in 1980s as a given. Although a re-evaluation of the buffer zone has been made in 2010, the values of the protected site have not been re-analysed[252]. One of the possible answers lies in the fact that Røros is truly a *living historic town*, and since the city is completely functional, its dynamic and continuous changes cannot be rigidly and accurately contained in a detailed management plan. The elements of the town requiring regular maintenance cannot be separately described in a detailed action plan of the management plan. Since the people themselves manage the site mainly through adaptive maintenance of the historic structures, the management plan itself is

[249] Understanding a Cultural Heritage Site – the Drawings of Sverre Ødegaard." 2010. The Røros Museum. P.41
[250] "It is considered as a mining town with cultural landscape, and as a town of wooden construction"; UNESCO Nomination File, 1980 revised 2010, http://whc.unesco.org/uploads/nominations/55bis.pdf (accessed August 15, 2011)., 43.
[251] As specified in the UNESCO Nomination File.1980 revised 2010. http://whc.unesco.org/uploads/nominations/55bis.pdf (accessed August 15, 2011)
[252] Ibid.

more of a guiding tool providing with the feed-back and control of the interventions in relation to the general objectives. The formal nature of the management plan can be explained by the dynamic of the living city, but the lack of feedback and re-evaluation of the site's values has no explanation. UNESCO requires periodic reports to be carried out in order to ensure the maintenance and keeping of the identified Outstanding Values. According to UNESCO the protection and management plans "should ensure that the outstanding universal value, the conditions of integrity and/or authenticity at the time of the inscription are maintained or *enhanced* in the future" and it is this enhancement that cannot be achieved without the re-evaluation of the values. If the conservation activities will continue to be applied considering only the individual case of one building, or one component, and will fail to be analysed as a process in relation to the natural functional dynamic of the town, then the future result might be a historic patchwork of unarticulated pieces.

The "National Built Heritage Centre" is the tool used to record and serve as reference for all the repair and maintenance activities carried out in the historic city. Specially trained carpenters and craftsmen participate in the on-going restoration project for the outhouses, and are generally involved in all the works requiring their specific knowledge and expertise, minimising the risks of inappropriate maintenance of the protected buildings. In general terms, Røros has very well established mechanisms that protect it as a *monument*, but its values as a living city are not so thoroughly considered.

Opportunities and threats

The threats to the site are currently and within a medium-term time frame of minor importance. The development pressure present in all protected sites refer mainly to the outbuildings of the town and to the general functional scheme that might change in the future.

The buildings that are no longer in use become badly maintained, which can lead to the damage of the original substance of the buildings. That was particularly the case for the outbuildings, and thus a program for their restoration was set into motion. As wood is a perishable material, highly susceptible to different types of damage[253], its constant surveillance and maintenance are of vital importance. The reverse, overzealous maintenance and repairs carried out on the main houses, meant in some situations replacing original parts with better, newer and more suited elements. The loss of original substance means loss of authenticity in materials, especially in the case of the old structures kept as part of the museum, and bearing exclusively touristic function. It is the case of the replacement of window frames and glass panels from some houses on Sleggveien and Kjerkgata streets. The loss of material authenticity has to be considered in connection to the continuous use, and in the previous example from the Kjerkgata street, the commercial use has been a constant. Generally the fine balance between material authenticity and value of use has to be taken into consideration prior to any 'improvement' or intervention to the area, but it is often the case that conservation is carried out as a technical process focused as much as possible on keeping all the original material. This case-oriented approach sometimes determines a break in the perceived coherence of the site especially when replacing the authentic material finally becomes imperative in case of wearing components such as the roofs and façade elements.

[253] Typical wood damage and conservation methods will be briefly discussed in Chapter 3

In terms of usage, the year-round obligation of residence for houses within the historic area means that the historic town will not likely become depopulated. The visitor surveys and tourism analysis show that Røros is unlikely to become an over exploited tourist attraction if the commercial area develops and focuses on local trade. Development of the buffer zones and surrounding areas of Røros, as well as the growing demand for holiday homes might be considered factors of risk, but they pose no immediate threat.

Another point identified[254] as being a weak point is the average promotion of the site. This relates to the usage of the site as a touristic attraction. As a living city with a continuous usage and specific dynamics, it has the majority of stakeholders comprised by the local people and the local authorities, and as such tourism plays a secondary role in its development and life cycles, so there is a lack of need for aggressive promotion. The elaboration of a visitor management plan as well as of a coherent complete communication strategy aimed at informing and educating the public, is nevertheless crucial for the understanding and future development of the site. There is insufficient information regarding the value of different historic layers present in the town, including the contemporary layer. It is also questionable whether the local people, as stakeholders with the greatest degree of influence, are being made aware of what the values of the site are, and of what is important and relevant from every historic layer.

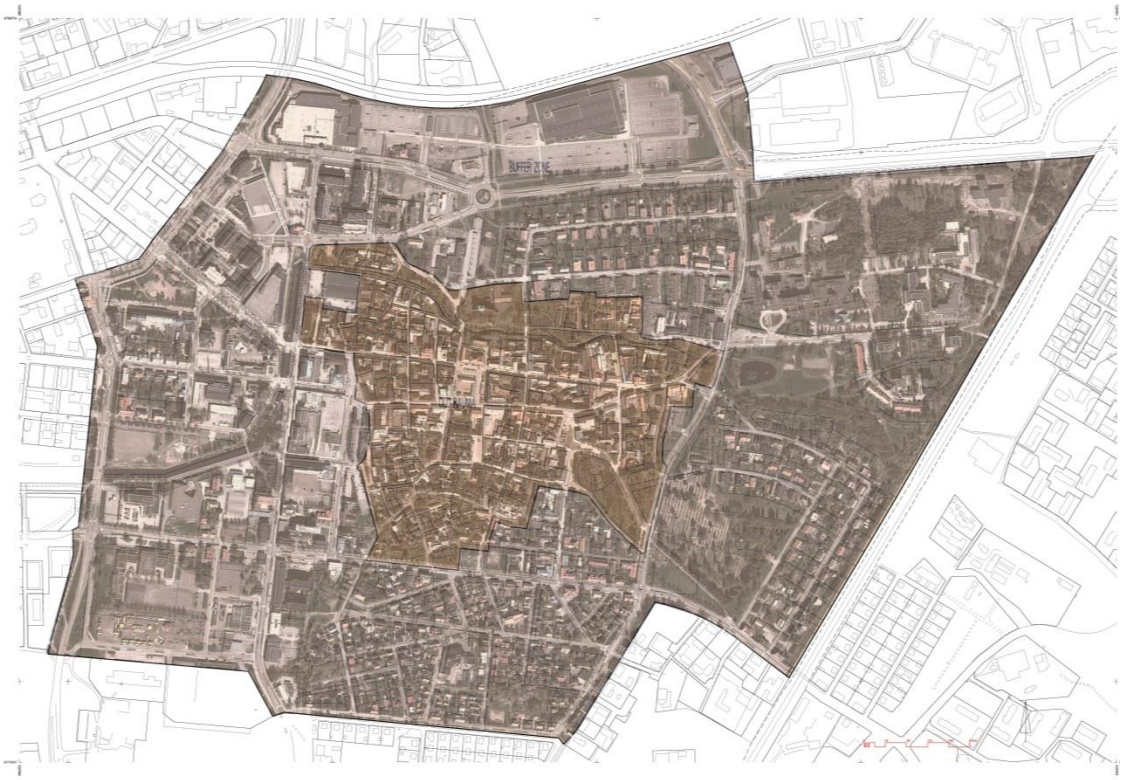
FINLAND

"Finland is the most Nordic of the Nordic lands; here coexist 'solemnity and unshakeable calm, and on the other hand, an unquenchable dreamer's temperament and a volcanic striving toward dramatic form"[255].

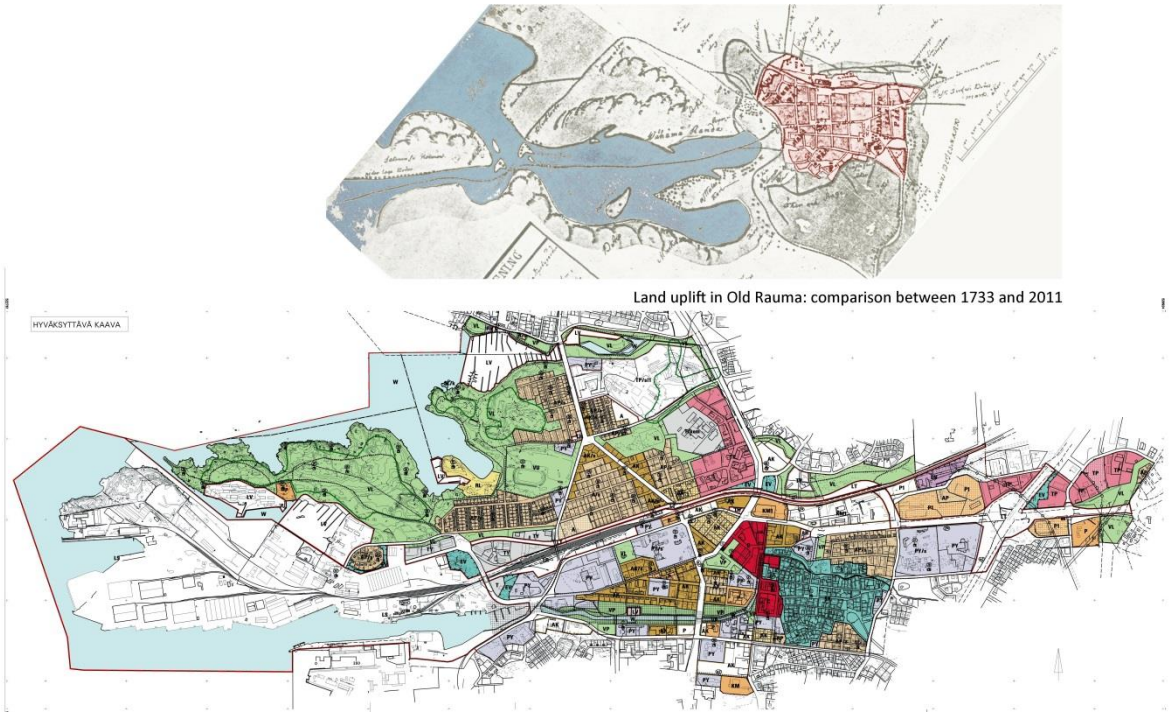
Sharing a lot of its history with Sweden, Finland's architecture is closely related to the Swedish in terms of traditions and building techniques. In terms of outside influences there are authors[256] noting stronger Russian influences in south-eastern Finland, especially in the case of vernacular architecture. As seen by Christian Norberg-Schulz the wooden architecture of Finland is a result of a mixture of factors, contextual, outside influences, builders and building techniques, styles and necessities, and can be seen as a coherent and unitary manifestation of the Finnish spirit and its close connection to the Natural[257].

From all the Nordic countries it is perhaps in Finland where it is most obvious that specificity and tradition are not frozen concepts, but concepts that make reference to specific times and moods, as what we consider specific today is the result of decades of development and change. The Russian rule of the nineteenth century has had its influence over the Finnish wooden architecture, especially in what the detailing and façade treatment is concerned.

[254] UNESCO Periodic Reporting 2006, http://whc.unesco.org/archive/periodicreporting/EUR/cycle01/section2/55-summary.pdf (accessed September 1 2011)
[255] Norberg-Schulz, Christian. 1996.*Nightlands: Nordic building*. Cambridge, Mass: MIT Press., 44.
[256] Donnelly, Marian C. 1992. *Architecture in the Scandinavian countries*. Cambridge, Mass: MIT Press., 228, Norberg-Schulz, Christian. 1996.*Nightlands: Nordic building*. Cambridge, Mass: MIT Press., 64.
[257] Norberg-Schulz, Christian. 1996.*Nightlands: Nordic building*. Cambridge, Mass: MIT Press., 44-45.

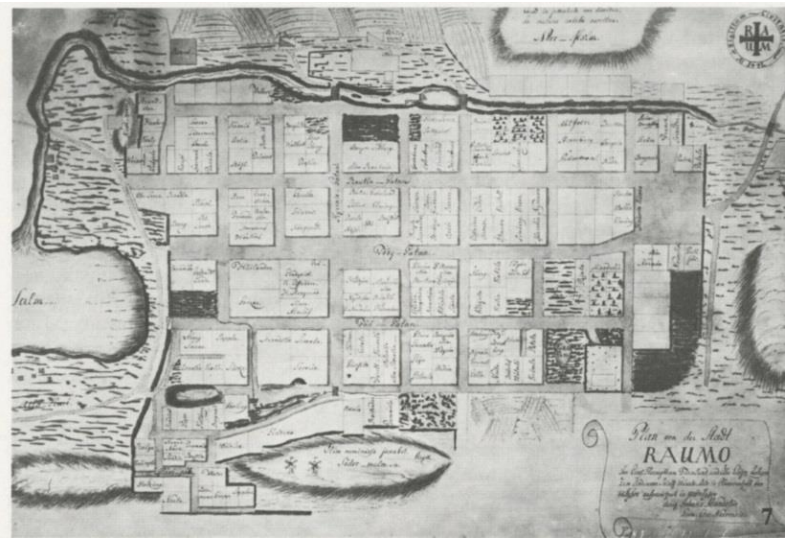


Map 14. Old Rauma World Heritage Site and buffer zone. Source:UNESCO nomination file available: http://whc.unesco.org/en/list/582/documents/



Map 13. Old Rauma: land uplift. Comparison between 1733 and 2011

Map 15. Rauma 2011. Source: Town plan



Map 16. Rauma reconstitution of the 1442 plot structure. Source: the National Board of Antiquities

Old Rauma

Specificity and Universal Value

Old Rauma[258] is an outstanding example of a traditional wooden Nordic settlement, representative for the Nordic culture in general and for the Finnish culture in particular. Through its particular architecture and historic stratification it illustrates significant historic stages. As with all Nordic wooden towns, in Rauma one can observe the scale of the architecture and the relation between the urban and nature, as elements of common specificity.

Identity

This wooden town was founded in 1441 as a dually focused settlement, the two reference points being the harbour and the Franciscan Monastery. The settlement had a dual focus point to begin with, the religious core and the economic trading centre developed around the harbour, and thus these two elements gave the place its identity and direction of growth. The town's position as a trading centre in the area as well as its well established connections through the Eurajoki and Lapijoki rivers allowed it to become a chartered town in 1442. After Turku, Porvoo, Ulvila and Vyborg (Viipuri), Rauma is Finland's fifth established town[259], and of the five is currently: "the largest, most homogeneous and best preserved"[260].

[258] The history, specificity, typical problems and threats, development strategies, conservation plans and management plans of Old Rauma are discussed further in Chapter 6.
[259] Lilius, Henrik.*Suomalainen puukaupunki =: The Finnish wooden town*. (Anders Nyborg,1985),151
[260] *Suuomalaisia puuukaupunkeja: hoito, kaavoitus ja suojelu = Finnish wooden towns : = care, planning and conservation*. 1995. Helsinki: Selvitys., 34.

Rauma has two **religious pivot points**, the Holy Trinity church built in the late 14th century –now in ruins- and the early 15th century "Holy Cross" church, which belonged to the Franciscan monastery, still in use today. The Franciscan monastery was dissolved after the Reformation in the 1500s, and only the Holy Cross church has been kept[261]. Although the community and settlement was built around these religious centres, in today's dynamic and as position within the town they hold a marginal position.

Map 17. Old Rauma shift of historic dominant function. Base plan 1756.

The town still retains most of its medieval urban structure, although recent archaeological excavations showed modifications of the buildings' footprint following the 1682 fire[262]. However, Rauma retains the typical plan of a crossroad town. Since 1650[263] Kauppakatu, the main commercial street, has kept its dominant position within the town. In the following centuries the street had suffered major modifications, numerous straightening actions, so that much of its medieval feeling and identity has been lost. Other interesting places that have kept

Image 16. Old Rauma harbour beginning of the 1900. Source: Rauman museo. Image code: RMK2292a
Image 17. Rauma harbour. Picture by Anca Dumitrescu 2012

[261] As specified in the UNESCO Advisory Body Evaluation.1991. http://whc.unesco.org/archive/advisory_body_evaluation/582bis.pdf (accessed August 15, 2011)
[262] Hakanpää, Päivi. 2009. "Rauma-Raumo Kaupunkiarkeologinen Inventointi."Museovirasto. available at http://www.nba.fi/fi/File/708/rauma-raumo.pdf. (last accessed November 2014)
[263] 1650 map drawn by Hannu Hannunpoika

their position and relation within the city are the initial trading market- the fish market- and the surroundings of the ruined Holy Trinity church. The trading market was situated near the shoreline, in relation to the harbour, to the natural context and to the coastline. As the land rose and the sea receded, the relation between the market place and the harbour became more and more diluted to the point where, today, it is unreadable. The two initial reference points that gave the settlement its identity – Kalatori market and the Holy Trinity church- surrendered their position to the commercial street and the Kauppatori market – administrative and commercial nucleus. Kauppatori market served as an enlargement of the main street –Kauppakatu, toward the shore. The dense historic core owes its structure, endurance, and coherence to the customs fence, built in 1620 and removed in 1808[264], which regulated the spanning and development of the settlement. It is an eloquent example of how an administrative and economic tool shaped the face of a city and controlled its urban sprawl for almost two centuries.

In terms or architecture and character, the town bears the marks of all the constitutive layers, the 17th century in the ochre painted outbuildings, the 18th century in the Neoclassical façades, the 19th century Neo-Renaissance details, panelling details, attic height, the 20th century in the main commercial streets and the relation between commercial function –building and street.

The spirit, feeling and intangible heritage can be found in the local dialect, the production of lace, and the local handicraft shops. In relation to its historical development, some of the elements of identity have disappeared, but it is arguable whether they are fundamental for the understanding of the spirit of the place. Another interesting point is that the identity of Old Rauma also resides in the typology and the feeling of the courtyards, most of which are privately owned. A recent initiative allowed for visitors and townsfolk to visit these private areas for a week during the summer. The initiative has been welcomed by visitors and locals alike, as the desire to explore the less known face of the town allowed them to get a better feeling of the place. However this brings into attention once again the fact that Rauma is a dual city: a city of life and a city of culture, a city of privately owned houses and a city of public functions. There is an obvious need for a better negotiation between these two facets.

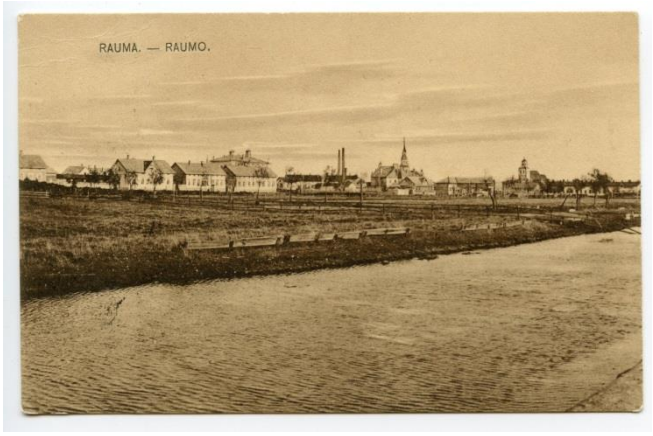


Image 18. Relationship with the natural environment photo Walfrid Wikmanin kirjakauppa, end of the 19th century. 1890 -1900. Source: Rauman Museo image code RMPK_postcard7093

Relation with the natural

The relation with the natural is mainly defined by one of the historic functions of the town, and by an element which represented for a long period of time the landmark and

[264] The customs fence was built between 1620-1628, the eastern "Pori customs house" was built in 1660, the western customs house built in 1732. Lähteenoja, Aina. 1932. Rauman Kaupungin Historia: Rauma 1600-1721, Vol. 2. Länsi-Suomen kirjakauppa, jakaja. p19-32

identity element of the area. **The harbour,** once the focus point of the trading activity and of the town itself, has been moving and developing further apart from the core of the town, as the land rose. The introduction of steam ships did not help the sailing ship tradition[265]. Soon after, the old ships, their usage and technology, just as the old harbour, became obsolete, and although once holding the greatest fleet of Finland, Old Rauma finds itself today cut-off from the water. Historian Sven Mellenius notes in the 18th century that despite the modest living conditions, and despite of the small houses of austere architecture, the townsfolk "have that natural advantage of an untrammelled and fair view of both the sea and the countryside."[266] . Therefore up to the 18th century, Rauma's relation to the Nature was a defining one. One could consider that today's Neo-Renaissance layer exists partially due to the sailing ship era.

The connection with the forest and with the water –the two defining elements of the Finnish natural landscape – is nowadays difficult to read and appreciate. The harbour with its still operational pulp factory still connects functionally the town with the surrounding nature and its resources, but the deeper integrating relation between the urban and the natural has been dimmed.

Image 19. Continuous use in Old Rauma. Picture by Anca Dumitrescu 2011

Continuous use

Continuous use is perhaps one of the most important qualities of the site. The continuous use gives character and identity to the area to the point where the value of usage surpasses its value as a 'museum'. The town has been in continuous usage ever since it obtained its charter in 1442, and it has been developing as a fully wooden town. What is interesting is that the Old Town concentrates the core of the contemporary city as well, since Rauma kept its boundaries intact up to the 19th century.

[265] Eino Mäkinen 1954. Raum o ain Raum. Helsinki, Kustannusosakeyhtiö Kivi
[266] Koivula, Jukka, and Anna Nurmi-Nielsen. 1992. *Vanha Rauma - Old Rauma*. s.l: Rauman Museo., 10.

Management and protection tools

Authenticity and integrity have not been analysed using UNESCO's definition[267] for Old Rauma "Its authenticity is due to the well preserved historical building stock, the street network that can be traced back to the Middle Ages, and a lively community with various services"[268] makes no quantifiable reference to historic layers, to design or context. Following the 1979 town plan, attempts have been made to modernise Old Rauma while keeping the exterior of the architecture intact. The restoration process involved adding new layers over the existing ones, while trying to emulate a historic image resulting in new *old looking* layers which confuse the visitor. As such the concept of Authenticity in relation to Old Rauma needs further detailing from a contemporary perspective.

The local Master Plan is the main management and protection tool used for Old Rauma, and is still based on the documents elaborated in the 1980s. The Ministry of Environment and the National Board of Antiquities act as warrants and reviewing bodies for all works carried out in relation to the UNESCO site. Seen more as a tool for museum-type monuments, the Management Plan, as in the case of Røros, has been considered a non-essential tool. However, Rauma unlike Røros never benefited from a coherent analysis tool that would allow for the understanding of dealing with historic monument, and as such some interventions concerning different parts of the town's life seem at times to work in dissonance. Given the number of plans developed for old Rauma throughout its history in relation to the number of actions taken according to these plans, one might say that the city has historically followed a policy of common sense and general care for the existing valuables rather than adopting any action plan to the letter. Perhaps that is why the Management Plan is looked upon with a certain degree of scepticism.

The historic town became a World Heritage site in 1991, a time when the theory of conservation was not considered or applied in a very rigorous manner. **A comparative analysis** was never carried out, since Rauma is *known* to be one of the oldest, best preserved, and amongst the most ample and diverse wooden historic towns[269]. The Outstanding Universal Value seemed somehow implicit at the moment of the enlistment when the Statement of Outstanding Value was not a requisite, and since Universal Values are considered everlasting, the need to reassess and reaffirm them was considered to be more of a formality. Contemporary restoration and conservation have changed and redefined their supporting theories, and therefore there is an increasing need to reassess and redefine the values of the site in accordance with the contemporary views.

[267] "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines.
[268] UNESCO Periodic Reporting. 2006. http://whc.unesco.org/archive/periodicreporting/EUR/cycle01/section2/582-summary.pdf (accessed August 15, 2011).
[269] UNESCO Advisory Board Evaluation 1991, http://whc.unesco.org/archive/advisory_body_evaluation/582bis.pdf (accessed August 15, 2011).


Image 20, Image 21 Perception of the boundaries: the limit of the protected area. Pictures by Anca Dumitrescu 2011

Urban risks and threats

Some of the main threats to the site come from the correlation between various plans, documentation and dissemination of information of the site. Tools such as a pertinent comparative analysis, a comprehensive management plan, visitor management, analysis of the important issues concerning contemporary conservation and development are key factors for the sustainable development of the city. Currently their absence makes it difficult to find connections between theory and practice, to reliably reassess the cultural property, or to elaborate efficient and proficient development plans. Understanding of the site and its values in light of the contemporary views might eliminate some of the risks that today exist because of the insufficient information. Rauma is one of the most integral and authentic wooden towns in Fennoscandia, but in order to maintain its authenticity some changes should be allowed. Authenticity is an issue concerning the old town, as façadism and mimicking the past have been at some point considered valid restoration options[270]. Since the 'authenticity' as main characteristic validating a heritage value has not been defined in relation to Rauma, it is almost impossible to maintain and enhance in the future. In Rauma the essential values defining the identity and the outstanding nature of the site need reassessment. The contemporary layers are often seen as inharmonious interventions, since "the charm of the old way of building is the very thing on which much of Rauma's tourist industry depends"[271] and therefore the risk of *museification* becomes ever more present. The increasing gap between the old town and the modern city also poses a significant threat to the coherence and integrity of Rauma leading to the same outcome. Should the fracture

[270] Current Masterplans of Rauma accept the historical layering and the consequent modifications of the façades.
[271] *Suuomalaisia puuukaupunkeja: hoito, kaavoitus ja suojelu = Finnish wooden towns : = care, planning and conservation*. 1995. Helsinki: Selvitys., 34.

between old and new accentuate, the complete 'museification' and loss of contemporary functionality will be difficult to avoid. Development of the living city and protection of the historic core are not integrated processes, and by being addressed separately by different groups of professionals they contribute to the fracture of new and old, museified and living. Keeping the entire historic core unchanged and preserving it intact is not a sustainable option, and in order for the city to continue living there is a need to define a degree of flexibility in change, as well as to allow for new values to be added to the existing. The sustainable development and maintenance of this *historic urban landscape* also rests on the ability to reconnect the historic city network with the contemporary one. An integrated process of re-assessment of values, protection, and development could provide us with a number of possible sustainable solutions for the future.

Entrance points, the marking of the Pori customs gate, the limits and overall perception of the entry points to the World Heritage Site need further enhancement since they possess historic relevance. In terms of use and economic activities Rauma's commercial and business centres are affected by the development of large scale supermarkets built within the buffer zones. On a long term horizon there is a risk of loss in terms of diversity and vitality of the historic commercial areas.

If they increase in number, visitors and intensive car traffic within the historic core are likely to affect the stability and quality of the original materials. Alternatives for tourist routes that would lessen the visitor pressure on the town, especially during the summer months could be found, while positioning Rauma in a broader cultural context and establishing a cultural network could evenly distribute tourist pressure.

Development pressures in the buffer zone: building hi-rise buildings along the visibility corridors of the main historic roads to the Heritage Site, new supermarkets and modernisation of the roads to accommodate more vehicular traffic, all pose a significance threat to the future development of the site. The local community, traditional shops and functions are also under threat from the future developments. However, no impact assessments, no environmental assessments have been made so far, while the buffer zone does not fulfil its purpose in mitigating development pressures.

Almost all of Rauma's risks are potential ones on a long term, derived from the insufficient documentation and dissemination of the data available, and there are no immediate threats. Although the site retains all the values that allowed for the inscription on the World Heritage List, opportunities for improvement are not being explored. In this case maintaining the Outstanding Universal Value is not an issue, but the unexploited possibilities of enhancing the existing values decrease the potential future value of the site.

Conclusion

It is clear that the historic cities are more than just "monuments". As valuable components of our heritage, they need to be preserved and dealt with in terms of their historic significance and value. As living manifestations of contemporary societies they need to behave, change and develop as cities following the contemporary dynamic. This dual characteristic of the *living historic city*, the tension between preservation, change and all the risks involved, require a more in-depth and multi-disciplinary approach. Traditional tools used for evaluating and conserving historic monuments are not sufficient for historic cities, and as such new tools have to be elaborated.

There is a general tendency throughout the Nordic Countries to be more inclined to a monumental approach as inherited from the previous century when dealing with historic urban heritage. This type of approach focuses on the material aspects of the cultural site, emphasising mainly the physical cultural values and features such as age, relative artistic or technical values and rarity value. This type of approach tends to prioritize individual monuments over urban continuity, tangibles over intangibles, rather than to consider the site holistically. Even for World Heritage Sites, the preferred approach to the city is based on tradition of planning and management of the city as a built form of material culture, tradition with exponents like Camillo Sitte, Giancarlo De Carlo or Leonardo Benevolo. This is, however, no longer in line with the general consensus on how the Historic Urban Landscape should be viewed.

Even when considering the conservation of monuments[272] from a contemporary perspective, there is a need to reassess and re-define their associated values. The main goal for the protection of historic monuments is keeping current values and assuring a sustainable life of the monument. Future generations should benefit from a monument that will be at least equally valuable for them as it is for the present generation, but there are examples where this is misunderstood and there are attempts to maintain heritage in an 'unchanging' state. Some approaches still consider the monument's values as universal and timeless. However keeping the current values of monuments and assuming they could be unchanging, is equally unattainable as a value's timelessness. Authors such as Salvador Muñoz Viñas [273] stress that *monument* and *value* are concepts defined by the users and society, and as such are dependent on them. Values are not intrinsically linked to the monuments, but rather are given and depend on the people that acknowledge and define them. As people and societies constantly change and redefine their values, consequently the monuments and their values cannot be considered unchanging or timeless.

In terms of the value, all of the analysed examples of Nordic Heritage are outstanding and exceptional from various points of view. Especially in the case of outstanding historic cities, there is a need for improvement if we aim at their sustainable existence, as well as the need for a methodology of care, development planning, supervision and feedback.

Considering the established and universally recognised hierarchies of values, the question is not whether the UNESCO listed monuments are the most valuable, but whether the others having only a nationally or regionally acknowledged relevance – the "regular" historic monuments – necessarily hold lesser value. If we decide that "other" monuments share similar values with the UNESCO listed ones, then they should benefit from similar management and protection policies. The credibility of the UNESCO listing, as well as the UNESCO hierarchies and values, partially depend on their periodic reassessment. Consequently the theories generated have to be periodically reassessed, and a coherent cycle of theory -practice- assessment-theory has to be established.

[272] Chapter 1 and UNESCO Operational Guidelines. 2008. http://whc.unesco.org/archive/opguide08-en.pdf , (accessed in September 2011), 13, art.45.: "monuments: architectural works, works of monumental sculpture and painting, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features, which are of outstanding universal value from the point of view of history, art or science"

[273] Muñoz Viñas, Salvador. 2005. *Contemporary theory of conservation*. Oxford: Elsevier Butterworth-Heinemann.

World Heritage Site (year of enlistment)	Management components integrated in other operational tools	Management plans publicly available	Management plan is operational	Protection area and buffer zone justified	Main problems, threats
Røros Mining Town and the Circumference (1980)	Yes	Yes	Somewhat. No action plans, evaluation reports, future directions are listed. It contains the description stage and deals mainly with stakeholders.	Yes	Museumification Loss of authenticity
Old Rauma (1991)	Yes	No	No	No	Museumification Loss of authenticity Urban continuum fractures along the boundaries Development pressure Traffic
Church Town of Gammelstad, Luleå (1996)	Yes	Yes	Yes	Yes	Intangibles Community Museumification
Mining Area of the Great Copper Mountain in Falun (2001)	Yes	No	No	Somewhat. Mainly for the mines. The protection area and buffer zone overlap for rest of the urban areas	Fragmentation Coherence and urban hierarchies Community

Table 1. Existing management plans and procedures for the analysed World Heritage Sites.

CHAPTER 3: FINNISH SPECIFICITY

The chapter focuses on the similar traits shared by all historic urban landscapes within the Finnish cultural region, in order to establish the most important features considered in the management plan. In order to uncover the significance and typical features of the Finnish "wooden town" the specificity of architecture and urban planning needs to be discussed considering the historical evolution. The formation and evolution of the Finnish town is described, seeking to uncover the specificity and historical values of the cities, looking at their significance beyond the "wooden town". The historic urban landscapes of Finland are analysed considering: the historical evolution of the region, the rules and laws influencing urban planning, the urban particularities resulted either naturally through adaptation to the site or imposed by law, the social and economic context of the major urban changes and the concept of the "wooden town", employed to underline the specificity of the Finnish urban landscape. The "wooden town" becomes the expression of the historic Finnish urban planning culture, which as will be shown, rests on much more than the extensive use of wood as a building material. The specificity of the place derived from the extensive use of wood will be analysed in the present chapter, as well as in the next chapter.

Uncovering the specificity and "*genius loci*" of the Finnish town requires looking at the culture that created it, at its becoming, at all its discreet traits, at all of its users. The Finnish wooden town is a Historic Urban Landscape, a process rather than an entity. The following chapter also strives to analyse the characteristics of this process by looking at its quantifiable and qualitative traits, tangible and intangible, viewed in their historic transformation and through today's manifestation. "Dealing with" this complex process means outlining some of its layers of specificity and planning interventions in relation to them.

In Finland, Fennoscandia, Europe as well as in other regions all over the world, the city has been the physical representation of a culture, by-product of its activity, an entity subordinated to its environment. Considering the wood as the dominant element of this complex entity[274] would be a gross oversimplification, misleading on every level. On the other hand, wood as a building material influenced the size and arrangement of the streets, the height of the buildings and therefore the streetscape, the facade treatment and decoration, the plot size and distribution of the houses within the plots, the choice of vegetation within the city as well as directly influenced the innovation of the late 18th century: the tree lined street. Although extensive use of wood in Finnish architecture can be a result of the economic conditions and general context, it is clear that the traditional building methods and systems employed by the Finns until the 19th century have been closely related to wood, and the characteristics and attributes of the historic towns are linked to this building material.

When analysing the historical layering of the Finnish town, one issue is the lack of historic documentation. The fields of urban research and urban preservation are younger than the object of their study. Several initial layers of urban development have not been documented accurately at the time of their formation and therefore are more difficult to pinpoint and interpret. In the Nordic Countries, towns had been founded and officially acknowledged since the 12th century, while the surveying profession was publicly acknowledged once the Swedish geodetic society was founded in 1628. Therefore between the 12th and the 17th centuries there have not been any

[274] the Finnish wooden town

systematic controlled and planned methods for surveying and supervising the urban growth and development. Starting with the 17th century the surveillance and planning of urban areas began to be developed as a science and was recorded as such. Archaeology is therefore one essential tool for recovering the meaning and history of layers before the 17th century, limited to a certain extent by the extensive use of wood[275].

The history of the different cities, legislation in general and urban planning regulations in particular, the materials used for architecture, frequent fires, all contributed to the specificity of the Finnish urban landscapes. In terms of tangible components, usually by studying the evolution of the street patterns and widths one can understand and interpret the evolution of the city. The specificity of the Finnish historic town could be read in a layered manner according to the characteristics of each development period. The orthogonal streets have been a main trait of the Finnish town from the 17th to the late 19th century.

The town of Hamina is one exception from the rule. Finland keeps few visible remains of its medieval past, and the oldest remains in terms of town structure can usually be traced back to the 15th or 16th century. The width of the streets has been regulated in Finland to a minimum of around 5 meters since the Magnus law in 1350. By 1664, the minimum width of the street in these towns built mainly of wood, and prone to fire, had increased to 12 meters[276]. The Renaissance, first half of the 19th century and late 19th century had their own urban characteristics which can be considered specific in the context of Finnish urban history.

The Finnish historic town represents the core and the heart of the modern city. The layout of the Finnish historic town is usually very well preserved, better than the built fabric. Most of the historic buildings were lost in fires and re-built on the same place, or were subject to alterations and improvements especially in the 1960s and 70s. 1964 is the year of the first Finnish building protection law, allowing the protection of both privately owned buildings as well as of entire building blocks. It may be significant to mention that the Finnish ICOMOS came into existence soon after that, in 1967. However, the discussion on the ideology behind the Venice Charter started in Finland after the translation of the Athens Charter in 1986 and especially after 1996 when the Venice Charter became the focus of research in Finland[277]. Although the conservation process in Finland started early on, roughly at the same time as in the rest of Europe, research into the ideology and similitude in practice between Finland and the rest of Europe started with a delay of about 30 years[278].

In the Nordic architecture of the historic town in general, and in Finland in particular, the wooden houses and residences form the majority of the built environment and therefore play an overwhelming role for the specificity of the place. Although the representative buildings such as the church and the town hall were built or later rebuilt in stone, more than 80 percent of the building fabric of the towns was built in wood. Historic buildings in the Nordic countries are usually wooden, masonry being the mark of younger stages of development mainly pertaining to the industrial or post-industrial era.

[275] Archaeological remains of wooden structures are particularly difficult to interpret and treat. It is generally the case of waterlogged wood, which as shown in chapter 5, is difficult to preserve and conserve.
[276] Kirjakka, Marjut. 1996. The Orthogonal Finnish Town 1620-1860. Its Structure, Components and Dimensions. Helsinki: Helsinki University of Technology.
[277] Koponen, Olli-Paavo. Arkkitehtuurin Keinoja kaupunkien rakennussuojelussa, vaihtoehtoisia lähestymistapoja pirstaloituneiden kaupunkien täydennysrakentamiseksi. 2001. Tampere p 35
[278] Ibid. considering the Venice Charter was published in 1964 but started being considered in Finland in extensive research only in the 1990s. The Athens Charter for Restoration of Historic Monuments was published in 1931, but came at the forefront of the Finnish restoration ideology in the 1980s. The time gap between the elaboration of the charters and their consideration in Finland is about 30 years.

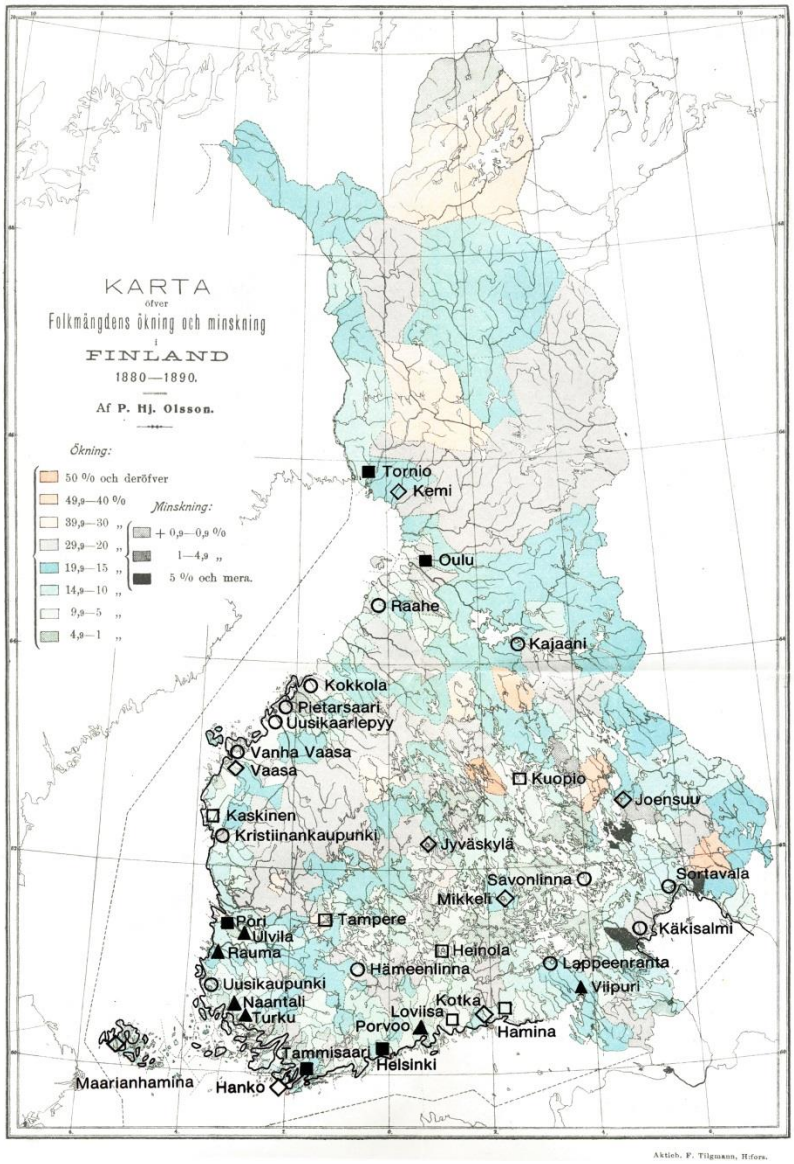
Managing changes in the Finnish historic towns is therefore a process which starts with acknowledging the specificity of the historic layers within the timeframe of their creation and development, but also considers the meanings and needs associated with the historic layers and their values viewed from today's perspective.

Tourism is one of the key factors for the development of heritage areas. Since the 1980s, tourism has been viewed as "an activity essential to the life of nations because of its direct effects on the social, cultural, educational, and economic sectors of national societies and on their international relations."[279] World Heritage Towns are very delicate entities, since they stand at the forefront of the tourism industry often using their outstanding universal values as commodities for cultural tourism. Marketing, communication strategies, city branding and preservation of existing cultural values are sometimes found in a tense relation in World Heritage Sites, and should be addressed and analysed in a correlated way.

Throughout the chapters of the present research, a differentiation was attempted between the concepts of historic "town" and the "city" in Finland. As will be presented in the following pages, the reason is mainly because the Finnish settlements have had a historically semi-urban, semi-rural character and have been acknowledged as urban areas for commerce and economic reasons, and not following the criteria used in other parts of Europe. The low population numbers and density, the type of urban architecture, legislation and administrative measures, fire protection measures have created a special type of urban spatiality. Until the 19th century most of the urban areas developed within a restricted geographic area, with dense overlapping historic layers limited by the "custom fence". Starting with the late 19th century several changes occurred in the urban areas: some of the spatial and economical limitation disappeared, new industries and business opportunities appeared, and new materials started being used. The accelerated growth around the dense historic core meant a change at an unprecedented speed and scale of the place and its environment. This type of urbanity, with the coherent, compact historic town at its centre, is the "city".

[279] Manila declaration on World Tourism. World Tourism Conference. Manila, Philippines. 10 October 1980. pp. 1–4.

Traits and particularities of Finnish 'wooden' towns



Map 18: Finland's historic towns in the context of the 19th century population growth. Sources: Henrik Lilius, Elisa El Harouny ▲ Founded before 16th century; ■ Founded between 1527-1617; ○ Founded between 1617 – 1721; □ Founded between 1721 – 1809; ◇ Founded between 1809 – 1900

When discussing the values of the historic towns of Finland formed along the Gulfs[280], one has to take into account the general context as well as the particulars of their formation and evolution. By looking at individual town monographs of the historic towns of Finland along the Gulf, one can observe that amongst the first settlers that involved themselves in the building of the town, there were significant numbers of burgers of German origins. Until the 17th century, of all the other European urban traditions, the German influences[281] were most felt in the towns of the Swedish Kingdom. The relative geographic proximity, maritime trade, practice and travels of journeymen from and to the northern regions of Germany support this view. The Baltic German

[280] Both the Gulf of Bothnia and the Gulf of Finland.
[281] Lilius, Henrik. 1985. Suomalainen Puukaupunki =: The Finnish Wooden Town. Anders Nyborg. p151

cities were considered representative and models for the Swedish towns of Stockholm and Kalmar, by King Johan III as well as Gustavus II Adolphus[282].

Turku, Viipuri, Porvoo, Ulvila, Rauma and Naantali were the first medieval towns to show the influence of the German-type institutions, brought by the German burgers.[283] The difference between city, town and rural settlement was defined slightly differently in the Swedish-Finnish kingdom than in the rest of Europe. Although there are very few primary documents describing the evolution and the structure of the Finnish town before the 17th century, there are a number of historical certainties. In 1600s the law[284] divided the cities in two groups: staple cities (*tapulikaupunki*) which had the right of foreign trade and country towns -*maakaupunki*- where only domestic trade was allowed. This differentiation lasted until 1879 when the legislation was abolished. The first class staple towns were Turku and Vyborg while Helsinki and Porvoo were second class staple towns[285]. Following them the next towns to be recognised were: Hamina in 1723, Kokkola, Oulu, Pori and Vaasa between 1765 and 1766. The difference in terminology between city and town, at least in the Fennoscandian region, rests on the interpretations of the words. There are no clear, objective characteristics to differentiate a city from a town. In Finnish *kaupunki*, *kunta* or *pitäjä*[286] are terms used for different administrative areas that can have the same or similar urban, social or economic traits.

One of the difficulties in establishing the particularities of Finnish towns and cities is that the Nordic urban culture in general is atypical from the rest of Europe from a density and population perspective. The cities of Finland, like many of the Nordic Countries, to this day do not meet the European size and density indices[287], so their classification as cities rests mainly on the local economic and legislative definition of the city. In this sense, all settlements constituted before the 20th century are considered cities based on whether they have received a city charter or not, as population and density indices used nowadays[288] cannot be employed for historic towns. In terms of cities viewed as agglomeration centres, in the 17th century Finland the 30 established towns concentrated a mere 3% of the country's population with only two towns having a population of more than 1000 inhabitants[289]. Most of the other towns had between 200 and 500 inhabitants.

Since the population density is smaller than in other European cities outside the Fennoscandian region, the functional complexity, the complexity of the networks and systems: transportation, utilities, land usage, is different in scale. In both Finnish and Swedish legislation, the difference between '*town*' and '*city*' is a formal one, based on the existence of a charter and legislation conferring the title. The typologies and classifications of the Fennoscandian urban

[282] Kirjakka, Marjut. 1996. The Orthogonal Finnish Town 1620-1860. Its Structure, Components and Dimensions. Helsinki: Helsinki University of Technology.:33
[283] Lilius, Henrik. 1985. Suomalainen Puukaupunki =: The Finnish Wooden Town. Anders Nyborg. p151
[284] Under the Swedish law, the Finnish towns were divided in 1614 between staple towns and country towns, with disastrous consequences in some cases to the towns' economies due to the high taxation. Magnusson, Lars. 1999. Sveriges Ekonomiska Historia. Prisma. P.115
[285] in 1614
[286] Kaupunki= city, township or borrow; Nowadays more descriptive terms can be used, like: pikkukaupunki=town; Kunta=municipality, kingdom, town, commune, urban district; kaupunkikunta= municipality; pitäjä= rural municipality, parish, county. Source: sanakirja.org; Rekiaro, Ilkka. Robinson, Douglas. Finnish-English-Finnish dictionary. Gummerus.2006.
[287] Based on the indeces used by EUROSTAT and the European Commission. European statistics on regions and cities. EUROSTAT.2013
[288] Dijkstra, Lewis, and Hugo Poelman. 2012. "Cities in Europe the New OECD-EC Definition." http://ec.europa.eu/regional_policy/sources/docgener/focus/2012_01_city.pdf.
[289] Turku and Viipuri

settlements fall outside the European mean[290] in terms of both population number and density and therefore require a more place specific analysis.

Historically, in Finland the Crown's decision to found a city had mainly an economic and political reasoning, as the first towns have been strategic or existing trading centres.[291] In terms of functions, the first recorded towns were the agricultural trading towns, where the life and the prosperity of the townsfolk depended mainly on agricultural production. This also made the functional structure of the first towns quite homogeneous, grouped around the church, the market, the town hall, and agricultural production. There are no written documents showing initial planning goals in terms of landscaping or urban structure in the Finnish towns, but rather the tendency to create additive urban structures, which could grow into coherent entities following principles of addition. The Finnish town, much like the Finnish architecture had been historically an expression of practicality favouring pragmatic answers to the user's needs over the active search for aesthetic ideals.

The division between public and private space has been essential, however, for the urban structure of the city, visible and affecting the perceived layers of the city to this day. Generally the residence and residential building block has been considered the exponent of private space, whereas everything else: the street, alleys, squares and open spaces have been considered public space. It has been speculated, based on a 1767 town plan[292] that the first row of permanent market stands and shops in a public square was planned for Kaskinen, and although movable market stands had been used since the beginning of the 17th century[293], the permanent ones became customary only in the 19th century, under the Russian influence. This division between public and private space is essential for today's World Heritage Historic Urban Landscapes, as it outlines the historic area as it can be seen and understood by the user. The historic square and market, together with the commercial street can be seen as the heart of the city, the place where the life was most vibrant and dynamic. These were the first places to be transformed and to bear the marks of stylistic changes. One of the main components that dictated the evolution and physical transformation of the Medieval European towns: the fortification wall is missing altogether in Finland, exceptions being Hamina and Vyborg (Viipuri) that have had fortification walls built around the city[294]. Customs walls were, however, used in most towns and especially in staple towns[295]. According to the legislation of 1622, all trading towns were surrounded by a customs wall, trading was limited to the main market while the second market was supposed to function in relation to the town church.[296] Although they did not have the same structure or the same function as the European defensive wall, they affected the urban structure and growth in a

[290] EUROSTAT. 2014. "Statistics on European Cities." http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Statistics_on_European_cities. last accessed November 2014

[291] Lilius, Henrik. 2003. Kaupan Arkkitehtuuria Suomalaisessa Puukaupungissa. Tampere: Suomalaisen Kirjallisuuden Seura. 10

[292] Town plan of Kaskinen. Kirjakka, Marjut. 1996. The Orthogonal Finnish Town 1620-1860. Its Structure, Components and Dimensions. Helsinki: Helsinki University of Technology.p 87

[293] Lilius, Henrik. 2003. Kaupan Arkkitehtuuria Suomalaisessa Puukaupungissa. Tampere: Suomalaisen Kirjallisuuden Seura. 31

[294] Fortifications walls were built in the Kingdom of Sweden only around those towns that could afford it: Stockholm, Kalmar, Visby and Viipuri. Lilius, Henrik, and Pekka Kärki. 2014. Suomen Kaupunkirakentamisen Historia I. Helsinki: Suomalaisen Kirjallisuuden Seura.52;375.

[295] The Minor Customs Statute of 1622 established that all towns had to be surrounded by a approximately 2.1 m height custom barrier, having a structure of horizontal logs. The law was abolished in 1809. Kirjakka 1996:31

[296] Lilius, Henrik. 2003. Kaupan Arkkitehtuuria Suomalaisessa Puukaupungissa. Tampere: Suomalaisen Kirjallisuuden Seura. 15

similar way. Taxation and economic measures have historically been very efficient tools in controlling urban growth and development in Finland's cities.

The scale, type and architecture of the buildings within the historic towns, generally decreased in representativeness, quality and level of craftsmanship from the centre toward the outskirts. This was visible especially starting with the 19th century after the dissolution of the customs gates. Some of the towns had provided quarters for the poor or for the workmen on the periphery of the towns and next to the industrial areas. This phenomenon of social segregation reflected at an urban level had been less significant and ample in Finland than elsewhere in Western Europe.

A particularity of the towns founded in the Gulf of Bothnia is the land uplift, which causes the shoreline to shift and the relationship of the harbour towns to the sea to change. For the Finnish towns along the Gulf of Bothnia this phenomenon allowed for a natural town expansion in the shore area, without moving the customs gates. It is the case of Old Rauma or Vaasa, which recorded a historical development and urban growth toward the sea but not a significant densification of the urban patterns around the customs gates. Most of the towns which did not benefit from significant land increase due to the land uplift, recorded a densification of the building stock along the customs barrier, or in some cases a reduction of the open public spaces in favour of new buildings - as the case of Uusikaupunki where, in 1753, it was decided to allocate and replace the marketplace plot with the new building plots.

Another shared particularity of the historic Finnish towns is their orthogonal character. The orthogonal plan has been viewed and analysed differently from the grid plan mainly considering street hierarchies. Generally, one of the first obvious differences between Finnish and continental European historic urban centres is the lack of the spontaneous, organic layers in the former[297]. Medieval urban structure in Finland has not been preserved mainly because of the reconstructions and urban transformations that followed all major fires and also because there are only six Finnish medieval towns: Turku, Viipuri, Porvoo, Ulvila, Rauma and Naantali[298] The orthogonal and grid plans on the other hand are planned- mark of organized towns, therefore their existence implies a certain degree of pre-organization and order. Within the orthogonal street patterns there are street types which have a definite hierarchy within the town, and there are uniform orthogonal patterns.[299]

Traditionally the Finnish town developed and was planned having one or two main streets, marked functionally or dimensionally depending on the period. These streets held the most public functions and developed into market streets.[300]

In the Finnish society egalitarianism can be traced back to the building principles of the early towns that did use dimensional hierarchies based on rank or property in building plots. Towns were initially planned and divided in plots of uniform size. It is only in the 19th century that

[297] The crowded networks of medieval streets, the irregular layout of French, British or German towns are considered by Henrki Lilius to be oposed to the "grid plats, that is a geometrically regular structure" of Sweden and Finland. (Lilius, 1985). Some exceptions can be found in Finnish towns, such as Old Rauma, especially in the Naulamäki area, where a relatively organic structure and irregular plots can still be identified. Although in the historic towns some medieval elements have been kept such as churches, historic cellars, in most cases the street structure has been significantly altered. Therefore the layers that have been preserved to this day are predominantly post 17th century and have an orthogonal character.

[298] Lilius, Henrik, and Pekka Kärki. 2014. Suomen Kaupunkirakentamisen Historia I. Helsinki: Suomalaisen Kirjallisuuden Seura. P.28

[299] Kirjakka, Marjut. 1996. The Orthogonal Finnish Town 1620-1860. Its Structure, Components and Dimensions. Helsinki: Helsinki University of Technology. P.20

[300] Ibid.

Finland started using dimensional hierarchies based on future users within the newly designed urban areas.

In terms of relevance and significance of historic layers, as will be shown in the following section, the layers before the 18th century are mainly revelatory in the sense of culture, way of life, connections between the needs and spirit of the Finns and the architecture and urban setting they created. Beginning with the late 17th, early 18th century, the ideas of stateliness and aesthetic principles began manifesting and slowly crystallized. It could be considered that vernacular architecture has been the dominant of the historic town up until the 18th century.

Relocation and urban population growth

For the Historic Urban Landscapes, continuity of use and living in the same place can influence the attitude toward conservation. Usually, traditional communities that have endured, and have been using continuously a heritage area, are the depositories of intangible values that shape the environment. Therefore changes brought to the H.U.L. are more likely to be considered as authentic, proof of the natural evolution process, when they are made by traditional communities that have continuously used the place.

The relocation of population to different urban structures, re-planning, or moving cities altogether to answer political, economic, geographic requirements or military strategies has been one of the difficulties encountered by the small Finnish towns. The specificity and urban character of the towns can be correlated to the population demography especially density and migration (both voluntary and imposed).

In 1546 and 1550 the towns of Tammisaari and respectively Helsinki were founded, mainly as strategic commercial and political centres. Helsinki was meant to be the main competitor for Reval[301] -nowadays Tallinn, a Hanseatic trading Town[302]. This required a high degree of competitiveness both in urban and economic terms, which could not be achieved for Helsinki if the population count remained low. Therefore, the citizens from Ulvila, Rauma, Porvoo and Tammisaari were forcibly relocated to the new town of Helsinki[303]. The relocation plan failed and people were allowed to return to their homes the following years[304].

In terms of social and demographic changes, the 18th century was characterized by economic growth which generated an unprecedented migration toward the towns. The population density increase in the towns as well as the pressures on the existing building stock determined an uncontrolled urban growth and densification of the built environment, either by new insertions or extensions and additions to the existent. The 18th century faced and was severely affected by both social economic and demographic catastrophes in the beginning of the century following the famine, wars and plague[305] outbreaks. As counterbalance a period of flourishing and profit began after 1743 and lasted all throughout the second half of the 18th

[301] Name used officially until 1917.
[302] Lilius, Henrik, and Pekka Kärki. 2014. Suomen Kaupunkirakentamisen Historia I. Helsinki: Suomalaisen Kirjallisuuden Seura. P.107
[303] Ibid.
[304] to Tammisaari in 1556.
[305] Great Northern War 1700-1721 with the Great Northern War plague outbreak 1710-1711, Lesser Wrath 1742-1743. During the Great Northern War and its plague outbreak ⅔ of Helsinki's population perished according to Vourinen, Heikki S. 2007. "History of plague epidemics in Finland" [Histoire des epidemies de peste en Finlande]. In Signoli, Michel et al. Peste: entre épidemies et sociétés. Firenze: Firenze University Press. pp. 53–56, while 652 people summing up to more than half of the existing population died in Porvoo. The Great Famine of 1696-1697 had already decimated ⅓ of the population of Finland.

century. The accelerated development of the latter half of the 18th century, after Finland's population had been decimated down to 320.000 inhabitants recorded in the 1740s, was largely based on mercantilist economic policies, physiocratic agricultural policies and the tar burning and sawmilling industry which were encouraged. By 1809 Finland's population had risen to 860.000, an increase of more than 50%[306]. Therefore, in a 50 year interval, between 1750 and 1800, Finland recorded a doubling in the urban population, which affected the building process and housing pressures in the urban areas. In this period, it was customary for a newly founded town to depopulate and supersede its surrounding towns. In 1765 the new town of Kaskinen, the new centre of the west coast, drew inhabitants from Vaasa and Kristiinankaupunki, which became devoid.

The economic growth of the later part of the 19th century triggered the migration of the population toward the towns, which resulted in another wave of unprecedented urban population growth. It is a period marked by rapid town expansion triggered by population growth, changes in lifestyles and changes of the traditional functions. Population growth generated pressure on the housing sector, and the new pressing need and demand for additional houses diminished the resistant attitude toward non-traditional building methods. In Finland pragmatic and efficient solutions have been historically favoured over the more decorative representative ones, so the growing demand for quick housing solutions needed to be answered with more efficient systems than log housing. The plots for smaller workmen dwellings were usually planned on the outskirts of the town close to the industrial areas. The costs for building and maintenance were low keeping the prices in the area were generally low; however, the surface area was also smaller than in the rest of the town. Trading and workshops were not allowed in these areas while the communities were regarded as 'lower class' having a higher risk of disturbing the public peace. The division within the town borders between dwelling areas for the poor and areas for the rest of the community as well as the general attitude toward the workmen dwelling areas gave rise to intense social criticism.[307]

Balancing the size of the plots required by the Building Ordinances for fire protection reasons, with the needs of the citizens and the prices of the properties proved to be a very difficult task. In 1860s, eight years after the town plan of Pori was accepted, more than 36% of the properties remained unsold[308], although the new town plan had only half of the plots which existed before the town fire of 1852, and more than 500 inhabitants were still living in temporary emergency shelters.

The 20th century, starting with the 1960s and the use of concrete as the dominant building material, raised questions with regard to the value of the historic, traditional urban structure. The modern city reform opposed and threatened the existence of the historic structure.[309] Industrial production and extensive use of concrete of the 1960s marked the beginning of the decline of the "wooden town".[310]

[306] Suomen Tilastokeskus ; Suomen väkiluvun kehitys 1750 – 2004. 2005. http://www.stat.fi/til/vaerak/kuv.html last accessed November 2014.
[307] Kirjakka 1996:202
[308] Kirjakka 1996:204
[309] El Harouny, Elisa. 2008. "Historiallinen Puukaupunki Suojelukohteena Ja Elinympäristönä". Oulu University. 180
[310] Idem, p.181

Urban structure, wood and fire protection

Fire protection and the impact of fire protection measures the urban structure and the built fabric are essential for the wooden heritage. Particularities of the urban structure can be associated with the extensive use of wood correlated with fire protection measures as well as with a specific building typology and tradition in Finland. The materiality of the building stock influenced the street widths, the street typologies, the building methods and architectural expressivity, the townscape, and ultimately the urban design, building ordinances and overall image and structure of the city. This becomes clear when analysing the evolution and impact of fire protection on the Finnish wooden towns.

One of the main objectives of town plans in Finland's wooden towns has been fire protection, usually by means of better planning spaces and distances between buildings. Until the 19th century the aim was preventing fires, since the fire extinguishing technology proved ineffective most of the times. Fire prevention starting with the 16th century was included in town planning and relied on designing more spacious urban structures, using less flammable building materials, regulating the use of open fire. Functional segregation depending of the level of risk associated to different activities within the city, as well as moving high risk activities on the outskirts or even outside the town, was a common practice. In the 1750s health and hygiene considerations were added as an argument for street widening. In terms of zoning according to risk levels, in 1768 the Fire Ordinance of Tornio[311] regulated the use and position of the sauna within the town, having the malt saunas outside the town area and all the bathing saunas fitted with chimneys.

The spacious urban structure that resulted was also more appropriate and welcoming for public life and public activities. Introducing planted streets for fire prevention reasons was a practice started with the 18th century. Fire alleys were an innovation introduced in the Gustavian Era town plans. Officially as a concept defined according to Building Ordinances, the fire streets were introduced in town plans and regulations during the 19th century -Neo-Classicism, and were initially designed as fire buffer alleys with access points between and around the wooden buildings, closed against the street.

The impact wooden structures have had on the overall development of the Finnish town can be argued against using the Stockholm Building Ordinances and town plans, which did not mention fire alleys, fire protection, or enlargement of streets up until 1763. However, the main reason is that in Stockholm, which was used as a model for town development and town law until 1809, most of the buildings were masonry. The Finnish towns based their written legislation on the existing Swedish codes and ordinances, so generally there has been little written information with regard to the Finnish regulations on fire protection, although the need for fire protection had been expressed in drawings.

In Kuopio in 1775 the prototype of the fire alley -rännikatu- was born as a space of easy access and circulation at the back of the plots. The first mention of the connection between street enlargement and fire protection can be seen in 1775 in the Chief Architect's Adelcrantz memorandum.[312] He explains that alleys should have at least 10,7m -18 ells- width to prevent fire from spreading from one block to another. It was the biggest dimension specified as a minimum width for alleys.

[311] Idem, p.87
[312] Kirjakka 1996:109

Although building regulations and plans do not clearly state the function or utility of these streets, it is known that they were part of the plot -so by no means public spaces- but did not have enclosed ends. By 1798, also because of subsequent plot divisions, the *"rännikatu"* became narrow public streets and therefore could no longer serve as fire alleys. In 1785 the Joensuu plan officially incorporated fire alleys of approx. 11,9m in the urban design, a record for fire alley width.

The fire alleys planned and used exclusively for fire protection reasons, first appeared[313] in 1801 in the renewal plan for Pori and were drawn with a width of 1,2 m (2 ells), and then in the plan for rebuilding of Raahe 1810. In the 1814 Building Ordinance the mandatory 1,2m fire alley was officially introduced.

The turning point in the Finnish fire protection legislation and fire prevention systems was the Great Fire of Turku in 1827, when around 75% of the town had been completely destroyed. The proposals for the wider streetscape recommend the widest structures in the history of Finnish towns, with 26,7 m for the main streets and 17,8 m for secondary streets. The proposal also included restrictions for the block density and imposed the use of the inner courtyard a spaces between houses as gardens - that would work as green fire barriers. The minimal size of the green fire barrier - the garden- was established[314] at 14,8m. The position of the annexes and outbuildings on the plots were regulated and avoided the adjacency of two or several flammable structures along the property lines[315]. The only property line allowing for buildings was the street facing property line which usually had an imposed alignment. Following the fire of Turku, the fire streets became wider, incorporating vegetation -rows of deciduous trees- as fire safety measures. For the Finnish cities urban vegetation was represented by deciduous trees and later seasonal vegetation, which would connect to the natural context and emphasize seasonal changes. Coniferous vegetation was avoided firstly because it has been associated with the untamed, wild nature, and secondly because of more pragmatic reasons since it is more flammable. Until 1856 the idea of using trees as urban components didn't exist, although between 1827 and 1856 "gardens" were analysed and specified in town plans[316].

Starting with 1840s, there was a tendency to align the fire legislation of the Grand Duchy to the more efficient Russian building ordinances regarding fire protection[317]. The committee charged with fire prevention and firefighting measures stressed once again in 1853 the importance of masonry or stone buildings and of an appropriate urban structure according to the prevailing building material. It was thus recognised that the urban structure of wooden towns, given the fire restrictions, should be more spacious and with a much lower height, allowing the easy extinguishment of the fire. The typology and the slope of the roofs were also a factor regulated in the fire protection measures, which indirectly changed the profile of the townscape.

The industrialized town with "a masonry centre surrounded by a lower residential area of wood"[318] appeared in the later part of the 19th century. The wooden town started to diversify and include more and more masonry buildings, culminating with the ideal of the town of masonry illustrated by the plans for Vaasa and Maarianhamina.[319] The rise of the masonry town was very

[313] Kirjakka 1996:110
[314] Statement of Burgers 1827.
[315] 0,8m was the minimal space to be left toward a neighbour's garden, 0,8m to the property limit had to be free of any built structure or high vegetation like trees. 7,5m was the minimal space between buildings and the plot inner limits.
[316] Kirjakka 1996:28-29,225-230
[317] Kirjakka 1996:192.
[318] Lilius, Henrik. 1985. Suomalainen Puukaupunki =: The Finnish Wooden Town. Anders Nyborg. p179
[319] Idem, p.184

gradual, starting with building representative masonry buildings such as the church and city hall within the wooden town, limiting multi-story buildings to masonry structures, and culminating in the latter half of the 19th century with towns centres designed for masonry buildings: in Pori, Loviisa, Hämeenlinna, Helsinki, Turku and Viipuri, as well as the above mentioned ideal masonry towns.[320]

From 1856 the concept of "vegetation" in the town plan referred to gardens, plantages - in some cases parks- as well tree planted areas.[321] The town plans following the fires of 1852 in Pori 1852 and Vaasa, were designed around the main streets -avenues- which were 36,5m - 44,5m -60 -75 ells- wide, answering both fire as well as aesthetic requirements.

The technical regulations aiming at a better fire protection in the 19th century included specifications for the position and detailing of fireplaces and fire sources within the properties, roof forms, roof materials and specified possible functions for the attic spaces, restriction of the buildings to one storey because of the limited capabilities of the fire-extinguishing technologies[322]. Buildings Ordinances specifically prohibiting wooden houses more than one story high were adopted in 1823 in Turku, Pori, Rauma, Tampere, Uusikaupunki and then shortly after in Hämeenlinna, Kajaani, Kuopio, Loviisa, Oulu, Porvoo, Raahe, Tammisaari and Tornio.

Fire building ordinances have had a significant impact on the Finnish townscape, architecture and urban structure of the 18th to early 19th century. It is clear that the wooden building stock affected the width requirements of the streets. The street profile was affected by the placement of larger houses toward the wider streets.

Overall, the efficient fire protection of the late 19th century was founded on a low density urban structure, doubled by the use of deciduous vegetation as fire buffers, extensive use of fire streets, and improvement of building quality especially for roofs. The needs for fire protection on one hand and the compact, dense representative urban structure on the other have thus been historically in a conflict difficult to mitigate.

Vegetation planning had been closely related in the Finnish town to the fire protection. Fire districts in the town were separated by tree-lined streets. Starting with the 19th century, the natural context, such as rivers, hillsides, the sea and its embankment have been used to separate different town areas and shape fire areas. Embankments started being planted with high vegetation.

Far from challenging Christian Norberg-Schulz's argument for the deep spiritual connection between the Nordic spirit and the nature[323], Kirjakka's pragmatic argumentation[324] of the need to prevent the outbreak of fire and contain its spreading through urban planning and the usage of vegetation barriers should be considered. The apparent tendency to "dissolve" the town in the vegetation -which can be seen in some post-19th century town plans, might have had strong practical reasons.[325]

Regardless of the reasoning behind building with wood, it is clear that this building material has had a significant, if not fundamental, impact on how the Finnish towns had been

[320] Ibid.
[321] Kirjakka 1996:230
[322] Kirjakka 1996:116, quoting the Fire Ordinance of Turku 1805, Fire Building Ordinance for Uusikaupunki 1807, Fire Building Ordinance Pori 1807, General Building Ordinance for towns 1814, and 1831 Memorandum of Hämeenlinnatown council 22.9.1831
[323] Norberg-Schulz, Christian. Nightlands. Nordic Building, MIT Press, Cambridge, Mass., 1997.
[324] Kirjakka 1996:115
[325] Refering to the townplans developed in the 19th century, following the Great Fire of Turku, and which emphasised the need to establish fire protection zonification through vegetation and town planning. Lilius, Henrik, and Pekka Kärki. 2014. Suomen Kaupunkirakentamisen Historia II. Helsinki: Suomalaisen Kirjallisuuden Seura.309

planned and evolved. The periodic renewal of the urban structure, which is fundamental in understanding the values and significance of the Finnish town, is closely related to fire protection, fires and the wooden constructions.

Its significance does not equal that of the Ise Grand Shrine, but the gesture or renewal rooted in the belief of impermanence of all things should affect the conservation attitude we have today toward preserving these historical artefacts. In this sense a "wooden town" can be viewed differently from a "masonry town" in terms of significance and conservation policies, as part of its value rests on the conveyance of intangible values in spite of the perenniality of their physical manifestation.

Streets

The streets were considered functionally, politically and socially as public domain. The street patterns in the historic towns are usually a result of either functional or symbolic and aesthetic considerations. Street typology as well as hierarchy is usually set according to dimensional size. Uniform width in street typology is specific for the Regularity period[326] in Sweden and Finland. Planned cities benefited from orthogonal, uniform streets. The needs of the inhabitants and users sometimes modified the well-planned street layout by adding unplanned functional alleys, by adapting the public space in terms of width and configuration.

Street, architecture and townscape have been considered equal contributing parts of the city's planned monumentality and coherence ever since the Renaissance. Building heights, street widths, facade design and built mass were equally important for the spatial structure of the Renaissance Finnish town[327] . The street has been valued for its spatial qualities both in terms of aesthetics and homogeneity. When assigning value to the historic town is therefore important to understand the values of the historical streetscape, the way in which the views and vistas have adapted and changes in time, as well as their present quality as layered streetscapes. The autonomous closed space of the historic street becomes an inward looking architectural space, needing to be analysed in four dimensions: length, width, height and time[328].

The 17th and 18th centuries in both Finland and Sweden, brought the official street rating: the Town Law, which defined both functionally and aesthetically the two different street types: the public street –"*allmän gata"*, and the transverse street – "*tvärgata"*. This hierarchic street division also implied an evaluation of the qualities, importance and overall values of different streetscapes, buildings and areas of the city formed along the different streets. Alleys were a functional resultant of the time, most of them important only for the fire protection plans, and can be considered tertiary streets. They are atypical for the regularity period and postdate it.

The hierarchy and value of streetscapes becomes relevant when discussing the implementation of maintenance programs and conservation plans. It is important to address the significance of the streetscape rather than the value in simple terms of representativeness, scale, age or public area. It is often the case that the oldest preserved streets are not the most representative or the biggest streets. The type and quality of street paving in historic towns such as Old Rauma tends to follow a value analysis of the streets considering the isolated value categories rather than the overall street significance, which often leads to dissonance.

[326] Regularity period between 1626-1721. Lilius, Henrik. 1985. Suomalainen Puukaupunki =: The Finnish Wooden Town. Anders Nyborg.
[327] Lilius, Henrik. 1985. Suomalainen Puukaupunki =: The Finnish Wooden Town. Anders Nyborg.. p64
[328] Time considers mainly the changes occurring in time.

Vegetation in the Finnish towns

Vegetation started to be accepted in the Finnish town beginning with the 17th century[329], and it had become widely used by the middle of the 19th century. The town had been perceived in total opposition to nature, so it was initially planned to be as tectonic and orderly as possible, "fully built" and contrasting the organic natural principles of the wilderness. Within the towns of the Nordic Countries, the space traditionally left for vegetation and cultivation, the inner courtyards and sometimes turf roofs, were tolerated because of functional consideration, although they were far from the "town ideal". Moreover, the vegetable garden from inside the blocks was often seen as a connection to a rural lifestyle, hindering the urbanisation of the town, a space available for future building.[330]

Trees began being considered as an integral part of the Finnish town beginning with the 1750.[331] Their role as a fire protection measure was supported by the significant decrease in the number of extensive urban fires in the towns using street lined trees. At the same time, the traditional turf roofs or other roofs covered with birch bark started being banned and replaced by metal roofing, first in Turku and later in other Finnish towns[332].

Tree-lined streets first appeared in Classicism[333], with one row of deciduous trees planted on existing streets. As discussed, one of the reasons for the introduction of vegetation in the tectonic Finnish urbanity was fire reoccurrence. Gardens and trees were considered to improve fire safety, but only if they used non-flammable tree species - therefore excluding coniferous trees. Although Finnish towns could not tolerate planting coniferous trees within the town limits, these were extensively used as building materials for the building stock.

A common trait of Neo-Classicism can be considered the street bordered by double rows of trees, and an overall increase in vegetation. Functional representation for streets leading to a representative, often public, edifice, was marked on newly planned or remodelled streets having 2, 4 or 6 rows of trees. The extensive use of vegetation for important streets, the attention given to the role of vegetation in parks and squares, extended throughout the 19th century. Parks have not been used and designed in Finland to the same extent and in the same manner as in Western Europe. The landscape parks inspired by the English gardens were limited in the 19th century towns. Vegetation had its primary role as a fire protection necessary layer, and was designed and appreciated for its aesthetic qualities in a few Finnish cities such as Helsinki 1812, Joensuu 1847, Loviisa 1853, and Uusikaupunki 1853[334]; otherwise the parks and public gardens were designed outside the town area plan. The traditional square used in Finland was surrounded by deciduous trees facing the houses. In the 18th century, squares started being used throughout Sweden and in some Finnish towns. However, since they were regarded as mainly decorative urban components lacking any practical function, squares were used parsimoniously. The use of vegetation and deciduous trees as fire prevention measures was standardized in all Finnish cities following the 1856 general building ordinance. The forest as a buffer area appears in the 20th century and is emphasized in the post-industrialized town, especially through Otto Meurman's urban ideals described in the "Theory of Town Planning" 1947.

[329] Kirjakka.1996:28
[330] 1694 proposal for a general building ordinance, Kirjakka 1996:28
[331] Ibid.
[332] Suikkari, Risto. 2007. "Paloturvallisuus Ja Kaupunkipalot Suomen Puukaupungeissa – Historiasta Nykypäivään". Oulun Yliopisto.p35
[333] 1721-1809
[334] Kirjakka 1996:230

Colour Schemes

The colourful facades are one of the most evident and striking features of the wooden towns. The ochre houses with marked white corners and details, or the pastel colours are not, however, the trademark of the Finnish historic town as initially most of the buildings were left unpainted. Tarring was used mainly for roofing. There was little benefit, other than the purely aesthetic, from painting facades, as the structural decay of wood has less to do with light or rain water[335] than with the increased humidity and lack of ventilation.

Red-painted facades was first documented in the Swedish kingdom in the 16th century[336], but only in the 17th century will Porvoo become one of the first Finnish towns to use the colour as a mark of stateliness[337]. The origin of the red-ochre pigment widely spread in the 18th century for the urban facades can be found in the mining town of Falun[338]. In the 18th century, following a widespread campaign started in Falun, advocating for the use of red ochre to make wooden architecture resemble the more noble masonry, most of the urban buildings in the Kingdom of Sweden starting using the technique for the main facade.

By the time red ochre had become accepted as the mark of stateliness, King Gustavus IV Adolphus, had already stated[339] the new fashion: yellow facades would be preferred since yellow is the "most appropriate and gayest" colour. Therefore, throughout the 19th century, while the less 'fashionable'[340] towns north and east of Finland were just starting to use the red ochre for the main facade of the most representative buildings, in the western and southern towns the main urban buildings were already repainted yellow. Rococo Classicism appeared in the facade treatment together with the yellow paint. At the same time some wooden buildings started using vertical corner boards as an aesthetic solution bringing the building closer to masonry building techniques. In the bigger south-western towns only the outbuildings and houses of the poorer townsfolk which had previously been left grey, were now painted red. The gap between the Swedish fashion and what was happening in western Finland in terms of facade treatment cannot be explained only through differences in the economic status or penetration of certain traditions or materials. It was noted[341] that traditional methods concerning painting the facades, which started in the 15th century in Sweden, were applied to only about 20% of the buildings found in east Kajaani in 1949. The remaining 80% still preferred using no facade treatment five centuries after the introduction of the style, regardless of the availability of the materials. In the northern Finnish vernacular architecture the painted facades, ochre or otherwise, are uncommon to this day, in spite of the certain economic prosperity Finland recorded over the past decades.

[335] The facades are the building components least prone to decay if adequately executed. Light and moisture effects on the facades are the least threatening for the stability and integrity of a wooden structure, whereas structural elements like the foundations or roof are more prone to accelerated and irreversible decay resulting from water infiltration and rot. Damage to structural elements cannot be prevented or limited through the use of coatings, but rather through good detailing and ventilation of the structure.
[336] for the facades of the Royal Palace in Stockholm. Nikula 1993:23
[337] initially only for the town hall, after which the practice extended to all main representative buildings.
[338] Nikula, Riitta. 1993. Architecture and Landscape. The Building of Finland. Helsinki: Otava Publishing Company LTD.p 23
[339] in a letter addressed to several towns in 1803.
[340] Fashion as well as the import of ideas can be linked to the wealthy commercial harbours and political centres, where the new models and ideas came first in contact with the local culture. The wealth of the communities had an impact on the probability and speed with which certain ideas would be adopted.
[341] Gardberg, C.J, Stadsplan och byggnadsskick i Borgå intill år 1834. Särtryck ur Folklivsstudier II. Helsingfors 1950. statistics mentioned by Nikula 1993:23

Town regulations and the international theory

Town control, both in terms of taxation and building technology and urban development had been historically achieved through the Town Law. Local building control used sanctions and tax exemptions when enforcing the law. Planning and surveying had been introduced in 1620; by 1630 inspecting and approving town plans was already considered[342]. In 1641 town plans as means to control development were already being used. The need for written regulations appeared at the end of the 17th century, and the first town in Finland to benefit from building ordinances was Turku, which was allowed to use the Stockholm building ordinance from 1725 as a guide[343]. Stockholm had been used as the model for both town planning and in terms of Building Ordinances during the Classicist period. Building Ordinances from 1725, 1736, 1763 were applied to most Finnish towns of the period.

Turku had its first proposed building ordinance in 1750 and approved in 1775. By the beginning of the 19th century building ordinances were used extensively as guides for development in most Finnish towns. For the towns of the Vaasa Province a general building ordinance was approved in 1800, thereafter followed by specific guidelines for specific towns. The written guidelines functioned similarly to the nowadays town plans and regional plans. Building ordinances were modified according to the desired urban development and needs.

Starting with the beginning of the 19th century, Building Orders were aimed at whole towns, areas or blocks and included specifications regarding the number and placing of buildings on a plot, height and number of stories, materials allowed for different buildings or components on a block[344]. Unlike Norway, where the traditional use of some building materials had been kept in spite of the potential fire hazard, in Finland starting with 1836 and following the Great Fire of Turku, potentially hazardous traditional building techniques such as roofs of stick and birch bark were prohibited from all towns. In establishing the specificity of Finnish architecture and building techniques in the historic towns, it is important to consider that some of the practices, regardless of how typical they are for the Finnish building tradition as a whole, have been banned from the historic towns because of the fire risks and not because of tradition or preference.

Starting with the mid-19th century it was mandatory for all building work to follow the plan approved by the town council. In Turku, following the 1823 building ordinance, which was the first Neo-Classical Building Ordinance in Finland, all plans for the new houses facing the streets and public squares had to be approved in the chief architect's office. The Chief Architect's Office –"*intendentskontoret"*- in Finland was established under the Russian rule, in 1811 and was charged with overseeing and controlling all building projects in Finland's major towns.[345]

A general building ordinance was given in Finland in 1856, and it was supposed to be followed by local building ordinances tailored for each Finnish town. It regulated the urban structure and dimensions, preferred building solutions both in terms of materials used for the structure and roofs as well as fire places, distances between structures, and building inspection and supervision.

[342] Kirjakka 1996:37
[343] Kirjakka 1996:37
[344] Building Ordinances of: Turku 1828, Pietarsaari 1835, Jyväskylä and surrounding towns 1838, Mikkeli 1838.
[345] Nikula, Riitta. 1993. Architecture and Landscape. The Building of Finland. Helsinki: Otava Publishing Company LTD.p.67

Typical conservation issues

In terms of urban conservation it is important to understand that the historic city and the historic centre defined and protected as a distinct, clearly defined area within the existing city, appeared in the 20th century. The object of the study - the historic area- is, or gathers, the oldest layers of the city, but its protection and consideration as a complex historic entity needing protection starts in the 20th century. The city developed and grew as a whole urban entity throughout its historical existence, following the legislation, people's needs and desires, economic developments. Starting with the 1972 Nordic Wooden Towns Convention the Nordic towns became aware of the valuable historic enclaves within the modern city, which needed protection. The gesture of defining and protecting these valuable areas is a double-edged sword. On one hand by defining, protecting and enhancing the values of historic areas we help maintain for future generations an important piece of heritage, which otherwise would be lost due to the dynamic urban growth and densification of the modern city. Contemporary architecture and urban planning have a tendency of homogenization and claim the universality of good quality contemporary architecture and urban planning. We seem to lose track of our individualities and regional specificity in favour of a more comfortable, international and universal lifestyle. The only elements that seem to ground and maintain the memory and the elements of specificity, the only areas retaining our regional identities, encompassing the "*genius loci*", are the historic areas. They become therefore containers for local identity and specificity, of values needing protection. On the other hand, by defining borders and different protection and conservation policies within the city, we create breaks and fractures within the urban continuum. Different areas with different values will be forced to develop at different rhythms and in different ways, which will in time break the connections of the city and the continuity of the townscape.

The total number of Finnish cities with a mainly wooden historic core, including some towns now belonging to Russia such as Vyborg (Viipuri), Käkisalmi and Sortavala, is 32[346]. The first drawings of the Finnish medieval towns were drafted in the 1620s, so written evidence of the settlements' morphology and outline before this date is scarce or non-existent.

Typical conservation issues for the wooden towns of Finland after the 1970 were linked also to the developments in conservation theory. In the 1970s up to the 1980s, the concept of stratification did not exist or it was not being given credit. Age value and aesthetic value were more important than context or continuity in change and development. This allowed for buildings to be stripped of some of their constitutive layers: Neoclassical stratum was seen as hindering and lowering the value of the older Neo-Renaissance one, and buildings were considered equally valuable regardless of the context where they were found. Historic architecture in the city was viewed as exhibits in a museum, equally relevant and valuable regardless of their context.

The courtyards, the privately owned areas like the interiors of the houses were arguably outside the reach of legally enforced conservation measures. Furthermore, the compensation law for the main buildings facing the public spaces: streets and squares- allowed the owner to add buildings inside the plot thus destroying the historic configuration of the inner courtyards. The facades and volumes can be considered semi-public, semi-private urban components, as they contribute to the streetscape and townscape and they are in direct relation to the public space of

[346] Comparing the towns analysed by H. Lilius and E. El Harouny et all, and eliminating the towns that lost most of their historic core such as Ulvila. In 1972 there were 25 towns proposed the study and protection in the Finnish report for the Nordic Wooden Towns Convention, H. Lilius proposed a list of 37 historic wooden towns in 1985. In 2003 the NBA investigated a number of 24 Finnish towns with a historic core.

the street. The interiors of private houses, on the other hand, are eminently private areas which can or should be used and modified however the user chooses. In this situation it is fundamental to inform the owners of the value of their historic property and persuade them to conserve and protect it by their own free will. The public- private delicate equilibrium, together with current conservation needs, raises issues which are specific to the contemporary society and were not being considered in the 1970s and 80s. One of the fundamental questions is what good is there to conserve an element of value which will never be shown to the public, and is there value in an object that has not been uncovered or shown to the world? What would be the benefit for an owner in maintaining the interior of the home to a high level of historic accuracy, despite the obvious downsides of not incorporating any modern technology, if he does not intend to use it for touristic, museum or purely aesthetic reasons? Arguably, the character of a town can only be preserved if all its components both in the public or private area are conserved to a similar level, but the present legislation currently covers only the elements impacting the streetscape.

Another issue is the loss of identity of the buildings after the conservation process. Since most of the conservation plans follow a clear set of prescriptions, most of which are the same for all historic Finnish towns - the "*korjauskortisto*"- there is a tendency to homogenization. The conserved towns tend to end up looking more similar than they were originally. The specificity of the place and of the architecture, the "*genius loci*" can be diluted in the attempt to improve conservation policies generally through a common set of repair and conservation methods.

There are also more pragmatic and technical problems related to specific moments, like the energy crisis of the 1980s when additional insulation and improved fenestration was used to raise the energy efficiency of the historic buildings in the detriment of the historic authenticity. The modern and postmodern improvements still in practice to this day such as replacement of roofs -in its entirety or just layers, as well as the preference for the more 'durable' concrete foundations reduced the amount of the historic material and overall the authenticity of the buildings. In Porvoo the modernisation of the infrastructure of the old town, beside the clear improvements it brought also raised the street level leading to severe moisture and water infiltration leading to water and rot damage to the foundations of some houses and even to the lower wall logs. Improvements are not always historically accurate and finding the right balance between historic fabric, authenticity and modernization has always been a difficult task.

One of the main incentives to preserving historic properties is their potential use as heritage resources in the tourism industry. This is also a double-edged sword, as exploitation for touristic and commercial reasons can easily generate fast and irreversible damage to the building fabric, mainly because of unsuitable adaptations and facade changes.

Wood as material and element of specificity

** This section on wood specificity in Finland and conservation of historic wood is based to a great extent on the 6 week participation in the 15th edition of the International Course on Wood Conservation Technology, organized in Oslo, 2012 by Riksantikvaren and ICCROM.*

The current chapter looks at the influence wood as a building material may have on the understanding and protection of the Wooden Historic Urban Landscape, analysing issues from the cell level upwards and therefore taking a more bottom-up type of approach. The present chapter strives to prove that, Regardless of whether the "wooden town" can be a valid concept the "*genius loci*" and specificity of the place can be influenced by the building material. Although wood as a building material might be not enough to establish a typology of a "wooden town" it can be used as an argument to prove that wooden components are intrinsically unique. This observation changes the manner in which conservation is carried out specifically on historic wooden components, since by definition every wood piece is unique. The whole approach gives a specific overview of the **Wooden** Historic Urban Landscape that has specific needs and requirements directly linked to the dominant building material.

In Finland 80% of the current building stock is built in wood[347] Undoubtedly the structure and characteristics of the Finnish town are indebted to the fire regulations and indirectly to the building material of which most of its building stock is made of.

The particularity of the Finnish traditional wooden architecture, both in terms of building techniques and architectural expressivity, are related to the log houses. Traditional wooden architecture in Finland is the architecture of the "hirsitalo", although the technique of corner timbering and log housing has its roots in the Russian-Byzantine civilization of the early 9th century.[348] The impending problem for the wooden town in this case is that the building technique that marked Finnish architecture and therefore the Finnish 'wooden' town up to the 1930s, can be found in almost all vernacular architecture of the temperate-continental area, and especially in the Nordic countries. The axe has been the main processing tool, hewing and adzing being some of the first surface treatments for wooden walls.

One of the issues in establishing the specificity of simple, logic architecture based on pragmatic decisions is that it cannot be specific to one culture alone. In mastering a building material, the performance and the uniqueness of the solutions depend on the limits of the material itself. The familiarity and expertise in working with wood that Finns developed over the centuries, allowed for a relatively cheap architecture that responded to the needs of the users better than any other, which is why the practice endured to this day.

Wood is an anisotropic material which means that the particularity of each wood object is in direct relation to the material structure and cell disposition. It is an organic material, thus it changes its properties, it evolves in time and at the same time it is a biologically perishable substance. In the context of wood conservation this raises a few issues. Historical objects become even more overall valuable as their age increases, and therefore the older the object the more valuable it becomes[349]. At the same time wood has a natural cycle of decay which makes the

[348] Nikula, 1993:13
[349] Assuming that all other values remain constant, the overall value of an object increases as it ages.

conservation work in some situations close to impossible – cases where the material substance is impossible to maintain under natural conditions. Especially in Wooden World Heritage Sites, where the material authenticity of heritage is so important, it is relevant to point out that wood conservation has its peculiar traits and methods that in some cases, as will be shown, require the replacement of authentic historic material with new, similar material. When addressing the management of heritage sites, their maintenance and conservation policies, it is fundamental to clarify how and under what conditions certain repair work can be carried out.

In terms of preserving the authenticity in general, there is another particularity of wooden architecture. Being a very flexible material, wood accommodates a wide range of solutions, but also generates architecture that can be easily dismantled or moved. This poses some additional issues in establishing the authenticity of certain buildings in their context; outdated buildings in Finland could be sold, partially replaced, or dismantled and relocated all together.

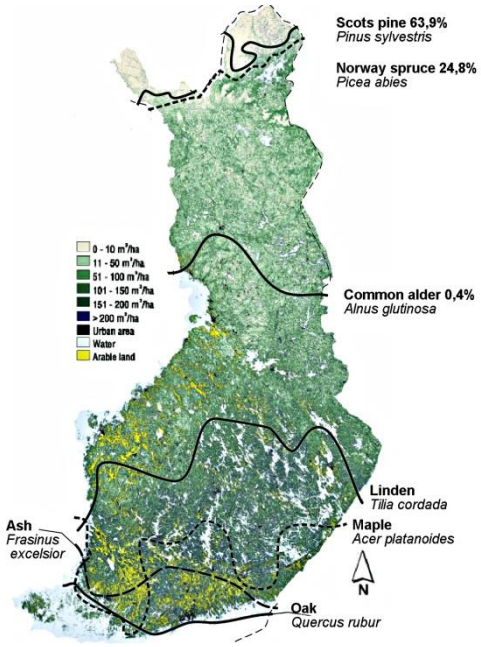


Figure 7. Wood species distribution in Finland 2013. Source: Finnish Forest Research Institute (Metla)

Use of wood in building components

In the Nordic Countries wood has been historically and to these days, a widely available commodity. In Finland historic wood species, hardwood, hazelnut trees, pine trees have had a central place as being part of the Finnish vegetation 8000 years ago. Spruce is the youngest specie to naturally appear and grow in Finland 3000 years ago. Nowadays Finland's forest area[350] is comprised by: pine almost 64% - a 13% increase from 51% in 2008[351]; spruce 24% - a 6% decrease from 2008, birch 10%, while the other wood species like juniper, aspen, alder, mountain ash, or oak summing up 3% of the forest area. For Norway the figures are slightly different: 46% spruce, 32% scots pine, 14% birch, 2% aspen, 2% grey alder, 1% oak[352].

Pine has been the preferred wood specie used as a building material in Finland, seconded by spruce that bends and decays faster than pine.

Spruce has been the main wood source for floors, boarding and musical instruments, given both its physical characteristics as well as its availability. It hasn't been widely used in log construction because of its tendency to rotate out of alignment as it dries[353], damaging wall structures in the process. Aspen has been used for barns, sheds and summer houses especially in the 18th century[354]. Pine is widely used for doors, windows and interiors given its superior durability in

[350] Finnish Forest Research Institute (Metla) report from 2013, available at http://www.metla.fi/metinfo/tilasto/julkaisut/muut/Forest-Finland_2013.pdf last accessed June 2014
[351] Siikanen, Unto. 2008. *Puurakentaminen*. Tampere: Rakennustieto. P.33
[352] Flaete , Per Otto. Presentation for the ICWCT 2012
[353] Vuolle-Apiala, Risto. 2012. Hirsityöt. Moreeni..30 Suikkari, Risto. 2007. "Paloturvallisuus Ja Kaupunkipalot Suomen Puukaupungeissa – Historiasta Nykypäivään". Oulun Yliopisto. 36
[354] Vuolle-Apiala, Risto. 2005. Hirsitalo. Jyväskylä: Multikustannus Oy. p.35

comparison to spruce. Birch has been used for special floors and furniture, while the use of oak has been almost exclusively limited to interiors.

Each living tree is a unique specimen, with its own traits and peculiarities unique starting at a molecular level. Most of the wooden historic buildings conserved today were built using traditional techniques but most importantly using the best trees that were available at the time. In various parts of the world different species have been used, but one common trait has been that the craftsmen used the best wood they could find and afford: the oldest tree, with the straightest fibre, the best density, the least amount of branches on the lower part of the trunk. The deforestation often associated with industrialization, and following the industrialization period to this day, not only reduced the forest area in some countries, but it also reduced the average tree age and therefore quality of wood. In Norway it is almost impossible to find the right type of tree, with the appropriate age and traits that can be used in the repair of historic wooden components such as stave churches[355]. A compromise needs to be reached, first in terms of conservations in accepting that the perfect compatible material for repair might not be found so easily, and second in terms of minimizing the amount of historic material discarded in the repair process. Historic material should be protected and as much as possible recycled because of its unicity.

The decay of wood

Figure 8. Severely damaged wooden ceiling, due to water infiltration, rot and insect attack
Picture by Anca Dumitrescu Tampere 2012

The main causes of damage in wooden buildings and wooden components are among the following: water damage, fire, incorrect relative humidity, incorrect temperature, biological decay - insects, moulds, fungi and bacteria - , mechanical decay, contaminants - chemical agents and pollution - , crystallization and radiation. From these only the ones most relevant for the exterior wooden components will be elaborated, since their detection and diagnosis can be also be done visually without the help of specialists. The measurement of relative humidity and its relation with temperature usually requires specialized tools and is particularly relevant for interiors. Biological decay, decay from contaminants and chemical agents, crystallization are generally assessed by specialists and therefore will not be further developed in this section.

The most frequently replaced elements and frequent repairs occur at the doors and window frames, the vents, roofs, different exterior protrusions of the cladding, chimneys and gutters[356]. The structural integrity of the wooden component is generally more important than surface decay in most building elements. However, for museum objects and wooden elements that need to retain their colour surface decay is fundamental.

[355] Mehlum, Sjur, building conservator, Riksantikvaren. Presentation for the ICWCT 2012.
[356] Interviews with site managers: conservation architect Kalle Saarinen, Tammela, Old Rauma and Torbjørn Eggen, Røros

Figure 9 Shoeing the Undredal Stave Church 1147. Picture by Anca Dumitrescu 2012

Water damage: can be caused by infiltration, condensation, infiltration through absorption of water or rising damp. Retrofitting historic buildings, adding insulation and lowering or closing the ventilation of the foundations can lead to condensation in the structure. Direct contact between the soil and wood panels, structural poles and the ground will lead to accelerated decay of the wood over a very short time span. Improper drainage around the house and generally at an urban scale can lead to flooding of the property or site and damage all wooden components in direct contact with water. Under dimensioning rain water piping and gutters can result in facades or the base of the buildings being exposed to prolonged contact with rainwater, allowing for water infiltration. It is generally recommended[357] for single-story wood houses to have roof eaves of at least 90 cm in order to prevent lower panelling from being constantly exposed to rain water. Even considering these recommendations in Finland it is quite usual for buildings with low bases to need periodic replacement of the lowest logs of the house. The procedure involves lifting the wooden upper structure evenly using jacks, and replacing the damaged log or sections of it. It is such a customary procedure that it is named "shoeing" the house[358].

Related to water damage, especially for the towns built along rivers or in close proximity to water bodies, there is a potential risk of flooding. An increased risk of flooding from rainwater is posed by the large commercial centres and supermarkets built on floodplains; their surface area and adjacent required built spaces decrease the area available for water drainage generating flooding of the adjacent heritage areas.

[357] Korjauskortisto. Museovirasto. Available at http://www.nba.fi/fi/tietopalvelut/julkaisut/rakennusperinto#korjauskortisto last accessed November 2014
[358] In Finnish: kengitys. Museovirasto. Korjauskortisto 16. "Hirsitalon rungon korjaus" p.11

Mechanical decay: can be caused by direct physical forces such as shock, vibration, abrasion or gravity, or it can be man-induced: vandalism and theft. Vandalism and theft in this case refers to the physical damage inflicted on wood as a result of breakage or dislodging, not the removal of entire artefacts. Mechanical decay can be cumulative like the gradual deformation of wooden components in time, can be a result of improper handling or support leading to deformation, or can define wear of the contact surface or breakage. Wear and tear is an important decay factor for sights with a high number of tourists. The cumulative damage from the feet of the visitors, from touch, or from exhibiting delicate objects in an excessively light room are issues that affect all organic materials including wood. This needs to be considered when the development strategies for heritage focus on the touristic exploitation of the touristic resource.

Figure 10: Mechanical decay: historic threshold at the Open Air Museum -Norwegian Museum of Cultural History. Picture Anca Dumitrescu 2012

Fire: is one of the most frequent and destructive decay factors for wooden and generally organic objects. Its effects do not only limit to the burning of the actual object, but extend to scorching, depositing smoke on the remaining surfaces, staining. Between 1500 and 1600 in Finland most of the historic towns sustained severe damage from fire on at least two occasions[359]. During various armed conflicts, the wooden built heritage suffered extensive losses from fire, such as during the Winter War when around 100.000 buildings were lost[360]. In log buildings, log components begin burning once a temperature of 250-300 °C is reached, without any direct contact with a fire source.[361] Lack of fire compartments, uninsulated chimneys, or chimneys that do not have the protection grating preventing sparks from escaping the flue are all problems that can potentially lead to fire. In Old Rauma one fire source could be considered the traditional chimneys used occasionally. If the chimneys are not maintained and periodically checked, they could become a fire hazard by overheating the wooden structure, or releasing sparks over flammable materials. The most combustible components in log buildings are the wooden floors and the tarred components, which become especially flammable.

[359] Suikkari, Risto. 2007. "Paloturvallisuus Ja Kaupunkipalot Suomen Puukaupungeissa – Historiasta Nykypäivään". Oulun Yliopisto..p.9
[360] Böök, Netta, and Juhani Seppovaara. 2008. Kirkosta Savusaunaan. Puusta Rakennettu Suomi. Keuruu: Otava.p.109
[361] Suikkari, Risto. 2007. "Paloturvallisuus Ja Kaupunkipalot Suomen Puukaupungeissa – Historiasta Nykypäivään". Oulun Yliopisto.54

Fire prevention and risk preparedness relates to what should happen before a fire - in order to prevent it from starting in the first place, during the fire - in order to minimize losses, after the fire to recover as much as possible from the affected tangibles. Most of the devastating fires that affected heritage sites in Fennoscandia occurred during dry seasons: spring and especially autumn, and in a period of intense winds which allowed the fire to propagate. Winter fires proved to be destructive because of the negative temperatures which drastically limited the efficiency of technical equipment, and affect the heritage exposed to water.

From past experience, most of the fire incidents are linked to repair or improvement work done to the site, especially waterproofing work and insulation of the roof[362], and which involves heat or spark sources. In the Nordic countries a "license for hot works" system was implemented by insurance companies and in Finland it reduced the fire incidents by 50%.[363] The licensing process ensures that the workmen are informed and trained to prevent, and as a last resort respond to, fire hazards involved with hot work. This proves that training and quick reaction time are essential in fire risk preparedness.

One additional complication of fire protection in wooden World Heritage Sites is that on top of safeguarding human life -the aim of fire protection in general- it must insure safeguarding the cultural values. This can prove difficult when the historic substance is highly flammable and at the same time sensitive to fire extinguishing methods. Sprinkler systems in interiors with valuable wallpapers or tapestries can prove a threat in themselves in case of false release. Moisture variation and water infiltration is another major threat to wood, which means that the introductions of systems that may favour water infiltration in case of false release could in some cases prove more of a hindrance than a solution.

In Finland, Museovirasto, or the National Board of Antiquities, deals with fire protection measures for heritage. The laws that touch on the subject of fire protection in -mostly new- buildings are: Pelastuslaki 468/2003 - The rescue Act; Maankäyttö ja rakennuslaki 132/1999- Land Use and Building Act; part E -fire of The National Building Code of Finland, all available online. The availability of information is not a problem in Finland, but a friendly presentation for the users, especially for heritage sites, could improve the awareness of homeowners. Most laws in Finland have no retroactive character, which means that most historic buildings are not required to fulfil modern regulations unless modifications or additions are carried out.

Prevention of town fires should be made by the local authorities or municipality, while the prevention of single fires in private properties should be covered by homeowners. The inventories, studies, research, trainings on fire prevention measures and the value of heritage, fire inspections, fire drills, fundraisers and incentives should be provided by the municipality, while individual home protection systems, especially in properties which are rented out, should be covered by the owners.

[362] Hot work safety guidelines. 2011. The Federation of Finnish Financial Services. p. 2 (https://www.fkl.fi/en/material/publications/Publications/Hot_work_safet_guidelines.pdf last accessed MArch 2014)
[363] Laurila, Anu, ed. 2004. Can We Learn from the Heritage Lost in a Fire? Helsinki: National Board of Antiquities. (http://www.nba.fi/fi/File/113/paloturvallisuusjulkaisu.pdf. last accessed February 2014)

Radiation both in terms of ultraviolet and visible light affects all organic materials by modifying the colour and properties of the surface layers of the material. Generally the most damaging form of radiation for wood is ultraviolet radiation, followed by blue light and green light[364], although the sensitivity or damage sustained from exposure to radiation varies considerably between materials and pigments. By fading colours in exterior conditions radiation damage induces a distorted perception of the pigments used for colouring the facades. Under general direct light exposure, oak tends to darken in colour while pine becomes grey -silvery.

Figure 11 Different discolorations of historic and new wood on facades affected by light, Røros Picture: Anca Dumitrescu 2012

One important aspect is that light and generally radiation has a cumulative damaging effect, which in most cases is irreversible. Reducing the time of exposure, the level of lighting or adding filters to the windows may be an efficient solution for interiors, but for exterior wooden components periodic painting and surface maintenance can limit the damage. One interesting consequence of light radiation is that the exposed surfaces seem to crack more and more severely than those in the shade: it can be observed on the different state of conservation between the North and South facing facades. In this particular case light radiation is an important element that contributes, together with temperature and moisture variation, to the accelerated degradation of the light-exposed facades. The surfaces exposed to light usually heat up. An increase in surface temperature also causes a decrease in both relative humidity as well as moisture content of the surface layers. The drop in the humidity causes shrinkage and therefore cracks in the wood. Since it is impossible to locally increase the RH to compensate for the temperature increase caused by radiation, we could conclude that light exposure does, indirectly, generate cracks and shrinkage in the exposed wooden facades. This effect is further stressed by the type of colour used for the exposed surface.

For exterior wood that does not have exceptional aesthetic value, radiation exposure produces a discoloration of the surface but does not affect the structural integrity of the component. Exterior materials are less likely to be protected from the effects of light, but the damage to the historic substance is insignificant and generally related to patina. Log buildings are

[364] Michalski, S. "Damage to Museum Objects by Visible Radiation (Light) and Ultraviolet Radiation (UV)." Lighting in Museums, Galleries and Historic Houses. London: Museums Association, 1987, pp. 3-16.

very durable, and the grey layer of decayed wooden cells offers protection from the fungi spores, which in this case do not get direct access to the nutriment-rich wood layers, rather than pose any threat to the stability of the logs. It has been estimated[365] that in Finland, a wood component exposed to direct sunlight over a period of 700 years would decay from radiation alone about 70 mm from the surface due to lignin dissolution. However, as we have previously stated, light degradation is often only one component of a more complex decay process: due to the combined effects of light decomposition, rain that washes the wood surface, moisture variations, temperature variations, and dimensional variations, facades exposed to intense sunlight have a significantly lower durability than those protected. The equivalent durability on facades differently exposed to the combined effects of radiation and rain are, depending on the wood specie, approximately 40 years for south oriented façade, 100 years for the east and west oriented facades, 500 years for the north oriented façade.[366]

Given the complex nature of the material, whether discussing its anisotropic behaviour, its viscoelasticity, the mechano-sorptive creep that appears in time as well as its nonlinear behaviour in time, it becomes clear why the materiality of historic objects is so important and in many cases so valuable. The aging of wood is an irreversible phenomenon that can be read in the patina of the objects -aesthetics, in their geometry-their structural characteristics and deformations, its behaviour linked to the chemical and physical processes occurring and evolving over time. In terms of conservation reversibility does not exist in wood: whether discussing of surface coatings, waxing, impregnation, PEG treatments, all treatments applied to wood have modified the substance of the material either by directly affecting the cell structure, or the permeability, the surface behaviour. There are no standard solutions in wood conservation and no standard problems although the typologies can be similar. Each individual case needs its own assessment, evaluation, proposed solutions, impact analysis, and in each case the replaced wood component will never be, nor will it ever behave the same as the original.

[365] Museovirasto. Korjauskortisto 16. "Hirsitalon rungon korjaus" p.4 Kaila, Panu. 1997. Talotohtori. Helsinki: WSOY. p.296
[366] Kaila, Panu. 1997. Talotohtori. Helsinki: WSOY. p.296

Conclusion: The "Wooden Town"

It is clear the wood as a building material influenced the layout, typology, development and aesthetics of the Finnish historic towns. Wood has been the obvious preferred material because of its availability, ease of employment, relatively low price and performance as a building material for the harsh Finnish climate. Its extensive use throughout history, however, points out a certain favouring beyond the purely economic and technical reasons. Wood was also chosen because it expressed the spirit, endurance, technical abilities and continuing skills of the Finns, bringing together rural building traditions with urban lifestyles.

Starting with the Athens Charter of 1931, followed by the Venice Charter in 1964, the protection of heritage based primarily on its value; specificity and authenticity had become paramount for preserving the cultural essence and maintaining the relevance of a place in an increasingly international context. In the Fennoscandian region, the historic wooden town soon became the expression of cultural specificity and value, although its differentiating attributes were not clearly defined. The historic wooden towns are still regarded as sites and not as historic urban landscapes. The complex issue of the living urban heritage is still regarded mainly from the perspective of the tangibles: the architecture and urban structure.

The historic "wooden town" throughout the Fennoscandian region brings together a traditional vernacular wood craft and a semi-urban lifestyle striving to fall in line with Western European trends. The term had been used in the 1960s by authors such as Carl Jacob Gardberg or Henrik Lilius but was officially proposed during the 1972 Nordic Wooden Town project; it was aimed at emphasising the specificity of the historic towns in the North European context. Numerous conferences and publications followed, and numerous authors dedicated their research to further refining the concept of the wooden town. Henrik Lillius, Marjut Kirjakka, Pekka Kärki are some of the most resonant names in the Finnish architectural and urban research field associated to the study of the wooden towns. Henrik Lilius analysed the subject from a highly objective point of view, establishing typologies and stylistic categories by scrutinizing buildings, legislation and urban plans. Marjut Kirjakka mainly analysed the wooden town from an urban perspective, looking at building plots, street patterns and their evolution, the volumes of the buildings, fire and building regulations, and subordinating the Finnish urban phenomenon to this data.

The current term of the "wooden town" is too broad, bringing together a considerable sundry of urban typologies[367]. The variety of forms and urban expressions that are presented by the Finnish -let alone Nordic- cultural landscape cannot be gathered under the same umbrella term without diminishing their relevance and specificity. The criticism brought to the term is that the "wooden town" as a term is not relevant for the age of the historic city, for its dominant economic, functional or production dimension, technology or specific building methods, cultural region, geographical position, religious specificity[368]. Therefore the "wooden town" can gather a wide group of specific elements, but is not specific in itself. It only becomes relevant by opposition with the "concrete towns" promoted by the industrial, functionalist era.

[367] Koponen, Olli-Paavo. 2001. "Arkkitehtuurin Keinoja Kaupunkien Rakennussuojelussa. Vaihtoehtoisia Lähestymistapoja Pirstaloitujen Kaupunkien Täydennysrakentamiseksi". TTKK. 25 and King, Anthony D. 1994. "Terminologies and Types: Making Sense of Some Types of Dwelling Cities." In Ordering Space: Types in Architecture and Design, edited by Karen A. Franck and Lynda H. Schneekloth, 127–144. New York: Van Nostrand Reinhold. El Harouny, Elisa. 2008. "Historiallinen Puukaupunki Suojelukohteena Ja Elinympäristönä". Oulu University. 22

[368] Koponen, 2001: 26; Mattinen, Maire. Puukaupunkien suojelu. Ympäristöministeriö, Kaavoitus- ja rakennusosasto. Tutkimuksia 2/1985. Helsinki 1985. 11

Since "historic" in the Finnish context is usually considered to be at least one generation - 80 years- old, the industrial layers of the towns are equally historic to the pre 18th century layers, and could be equally considered parts of the "wooden towns", especially if they happen to be built out of wood. As we have previously established, wood has been one of the most present and enduring building material in Finnish architecture. It is specific because it is ever present - one common denominator, without being necessarily time, style or technology specific. Although the Finnish wooden town, at least according to Henrik Lilius' definition refers to historic urban structures established between the 1620s and the 18th century, the term "Finnish wooden town" can easily apply to the urban structures and neighbourhoods predominantly wooden, built after the 18th century. Industrialization and the introduction of sawmills changed the building techniques, but equally affected the older historic layers of the existing towns. The top to bottom approach -finding a term wide enough to cover all historic urban structures built in Finland is covered by the "wooden town" terminology.

This however, cannot satisfy the definition of the historic urban landscape that regards specificity as its most important trait and finds its specificity from a bottom-up type of approach. Trying to go further and refine the definition of the wooden town to more subtle and concrete specific traits, a bottom up approach that can encompass the specificity of each individual place is a lot more difficult, as each particular case has its features branching in different directions from all the others'. Category typology for Finnish towns is based on the assumption that towns founded or developed in roughly the same period were more likely to exhibit similar characteristics. However, judging from the resistance to the new models and tendencies exhibited by the adoption of the facade painting throughout Finland, it is clear that towns in the North, NE and East of Finland had a different openness to foreign models than the W, SW and Southern towns along the coast. Unless the category features were enforced by law, they did not affect or manifest themselves in all contemporary communities equally.

Age cannot be considered the key argument for common urban characteristics in wooden towns. Environmental and social specific factors changed the characteristics of the historic urban settlements.[369] Another problem is assuming that a city is a determined system, and defining its characteristics and specificity based on that. Studies[370] have shown that cities behave more like a non-linear system, following the principles of chaos. Without acknowledging the human dimension - the intangibles- no matter how determined the system of the city appears to be, and how organized it is through urban planning and control of the building process, there will always be an occurrence of a seemingly random behaviour: the city will develop to some extent erratically. The phenomena of the city are complex and its specificity cannot be pinpointed without an analysis of the whole system, and all of its components, bringing together fields like architecture and urban planning, the social factors, the political areal, historic data, and the wider environment. Without considering the full dimension of the H.U.L., historic centres become museum exhibit areas surrounded by the contemporary city. What has been pointed out so far[371] is that the historic wooden town cannot be analysed as an isolated part of a city, a fifth functional area where the historic value allows for mixed functions, a floating ideal island of old values and traditions limiting its layering to the end of the 18th century. The historic living Finnish town –a

[369] Idem, p 28
[370] Theory of chaos applied to urban structures, expanded in Portugali. Juval. Complexity, Cognition and the City. Springer. 2011; Pulselli, R. M., & Tiezzi, E. (2009). City Out of Chaos: Urban Self Organization and Sustainability (The Sustainable World). WIT Press. 2009
[371] Koponen, 2001: 31

historic urban landscape- is an area of concentrated significance within the contemporary city, linked and completely hardwired to the environment and the realities of its current users. The continuity of this non-linear system has to be considered fully when discussing the management of change, as change cannot be produced only locally. As with the butterfly effect, any minor local change or disruption in the system can have disproportionate, incalculable effects in another part of the system, so protecting the historical areas as ideal areas, under a conservationist 'glass dome' is a task that cannot be achieved in a living city.

It is clear from the historic analysis and urban development that issues such as: fire protection preparedness, a typical town scale, the relations between the built environment and the natural context have been strikingly similar for most wooden towns and have influenced the characteristics of all the different places. As such, the attitude toward fire protection, reinforcing the connections between significant areas in the towns, as well as the technical methods used to preserve wood as a historic substance could be the same for all the analysed cases. The last point must be read with care, as the preservation measures for the historic material do not influence nor limit the conservation choices for the building as a whole or for the wooden element that is being preserved.

Overall, the overwhelming arguments for and against the use of the umbrella term of "wooden town" point out the necessity to analyse this building material in the context of its historic use and specificity. It has influenced the Finnish art, architecture and urban planning to the extent of almost forming its own typology of building and organizing things 'in the North'.

The historic "wooden town" in this context, should be understood and identified as a type of historic urban landscape particular for the Fennoscandian region, with its own specific traits, characteristics and values. By looking at individual town monographs of the historic towns of Finland along the Gulf, it is possible to pinpoint some common traits that reveal a regional specificity that influences the "*genius loci*" of each place. To narrow the analysis of the Historic Urban Landscapes of Finland, chapter 4 will further narrow the area of study, focusing of five Finnish historic towns: Old Rauma, Old Porvoo, Tammisaari, Uusikaupunki and Kristiinankaupunki. Old Rauma and Old Porvoo are the most dynamic and coherent historic urban landscapes of Finland, at the same time the most vulnerable to accelerated change and pressure from contemporary development projects. At the other end of the spectrum, Uusikaupunki and Kristiinankaupunki are two historic urban areas affected by population decrease and urban shrinkage; therefore the conservation policies need to be considered in connection with revitalisation and accessibility studies. Tammisaari is an interesting case in between the two extremes, a place with a different dimension of the intangibles, increasingly regarded as a leisure or retreat area: well-connected but not as hectic as the contemporary city. Looking at these 5 examples, the aim is to find and define possible connections and common points between the selected cases and develop a common approach for their protection and development.

The specificity of the Finnish wooden towns can be also defined from the perspective of the uniqueness of the building material and techniques employed. Conservation measures should take into account the specificity of the place also starting from the bottom-up: from the materials used, skills needed, people that contributed to the creation of heritage, communities that maintain the heritage alive, and then look at the relevance of the place at a universal, global scale. The form and appearance of the place are far from being the crucial values of the place – it may as well all start at a cellular level.

The desire to maintain as much as possible from the original historic material is not a result of over-attachment to the past, but rather it's a result of recognizing the uniqueness of historic wood in terms of material properties, craftsmanship, uniqueness of the historic components as a result of aging, adapting to the environment, settling into place. The wooden component is rooted in the house it creates, and often replacing it means ripping a vital component out of place, leaving the house out of balance, disturbing the equilibrium of the environment.

CHAPTER 4: FINLAND'S HISTORIC URBAN LANDSCAPES
-study cases-

The present chapter focuses on some specific Historic Urban Landscapes in Finland, trying to look at the elements of specificity in a narrower cultural context. The main study case, Old Rauma is a Nordic World Heritage Site, is considered a Finnish "wooden town", and it is presently analysed alongside its main competitor for the status of World Heritage Site, Old Porvoo. Other historic coastal towns, sharing a similar evolution with Old Rauma: Tammisaari, Uusikaupunki, Kristiinankaupunki, are also part of the study. The cultural context, the policies of the State Party regarding heritage preservation and management influence the way in which H.U.L. is understood and defined in general. The present chapter looks at the opportunities and threats common for the Finnish H.U.L. in order to formulate recommendations for a better management tool, presented in chapter 6. Since the sources and available information used to analyse the following study cases have differed significantly, as presented in the appendix *Documentation used for the analysis of Finland's historic urban areas*, the chapter does not present a comparative study. The analysis of the study cases strives to pinpoint the most obvious threats and weaknesses of the present day preservation procedure for the Finnish Urban Historic Landscapes, in order to envision whether a new management tool would be able to mitigate or remove them.

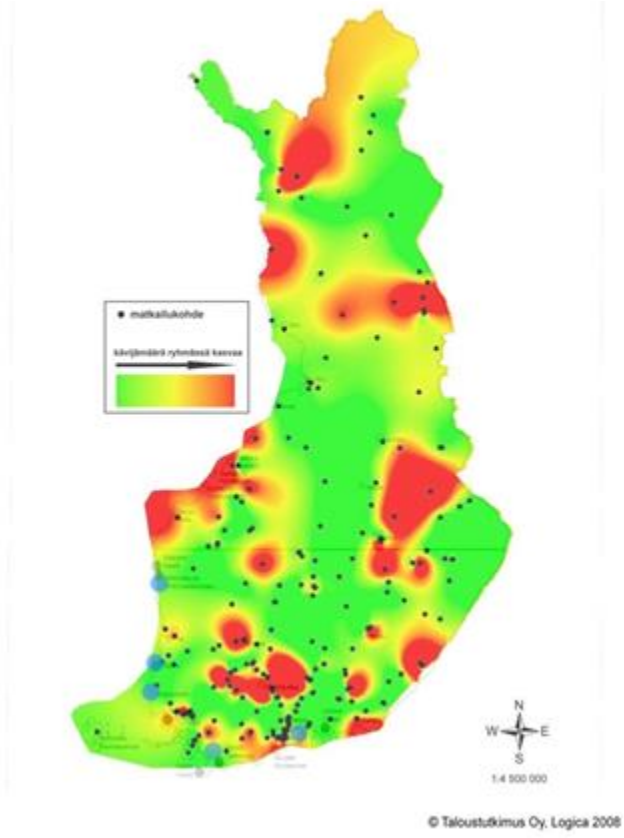


Figure 12. Number of visitors recorded in major tourism destinations. 2007. Source: Taloustutkimus. 2008

The historic areas in Finland are considered in a segmented manner, mainly valuing their tangibles and their historical evolution. The history of the place is left for historians and architects, the urban structure for urban planners and city administration; the social aspects are dealt with by the appropriate institutions. The specificity and values of the place are sometimes discussed in academic discourse, sometimes are felt and experienced by the user, but usually such issues are not included in the town plans. As analysed in the previous chapter, this fragmented approach to the city, doubled by a centralized law enforced ideology toward a unified methodology for town development, as well as the need to address interventions within clearly delimited boundaries, are, in a sense, deeply Finnish. However, this pragmatic approach to defining and dealing with historic areas falls outside the Historic Urban Landscape approach and risks

becoming excessively simplified, in fact not reflecting the true nature of the site viewed as H.U.L. In the following chapter, the selected study cases will be viewed as Historic Urban Landscapes, underlying some of their specific traits and conflicts.

The proposed area of study has been chosen for its touristic potential as well as for its relevance as a serial nomination of historic wooden towns in Finland. Although a World Heritage Site serial nomination of the Finnish Historic Urban Landscapes might currently be considered unfeasible because of the indirect costs and because of the state policy, it might be a future solution worth considering. From a touristic point a view, promoting the Finnish urban heritage along the Southern and Eastern coasts would revitalize some of the historic cities, attract investors, diminish urban shrinkage, and distribute tourist loads evenly along the coast reducing the risk of moral wear[372]. The area is pinned between five historic towns with travelling distances between each other of maximum 4 hours or 300 kilometres. Old Rauma World Heritage Site is situated in the middle of the touristic route.

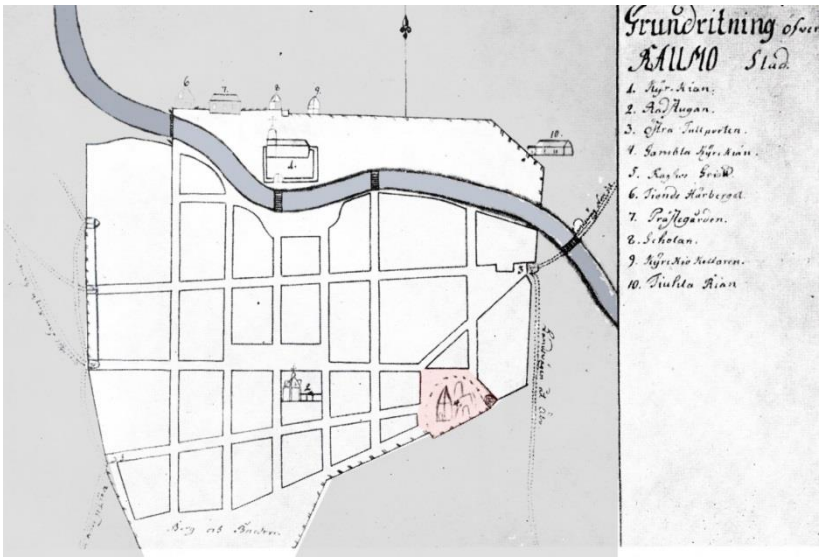
In terms of tourism attraction centres, according to the 2013 Tourism Survey[373], most visitors were attracted to the Helsinki area, and overall to the following regions: Uusimaa, Pirkanmaa, Lapland, North Ostrobothnia and Varsinais-Suomi. These five regions covered nearly 60 per cent of the demand for paid accommodation[374]. In Eastern Finland there are mostly Russian tourists. In terms of management of change several authors have pointed out the importance of feasibility studies or development scenarios. Uusimaa is the only region for which scenarios for development including tourism strategies, have been carried out, as it is also the region concentrating the most tourist numbers.

One issue in getting a comparative number of visitors for each of the analysed heritage towns is that the data is usually gathered from museums that do not operate throughout the year. The touristic season for some of them is 4 months, 6 months but there are also records of festivals and event weeks that gather a record of tourists concentrated in a very narrow time frame. In that sense it is difficult to estimate an accurate average tourist concentration per month per historic city, but rather record cycles of activity.

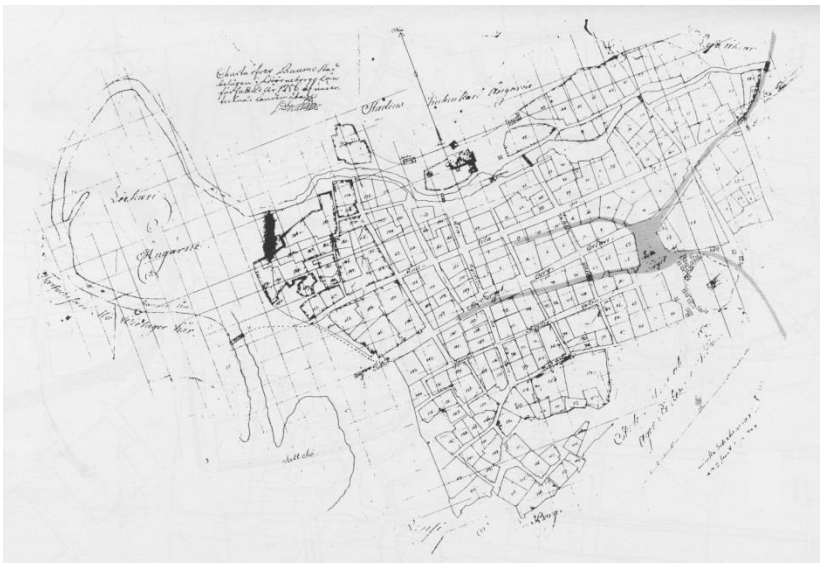
For example in Old Rauma, most of the tourist data is gathered from the two main museums that are open throughout the year: the Rauma Museum and the Rauma Art Museum. Combined they added up to 33171 visitors in 2007[375]. The Music Festival brought 1650 visitor in one day the same year. Considering the total rough number of visitors recorded per year, it is clear that Porvoo outranks all the other towns with 50.124 visitors in 2007, Old Rauma had only 34.821, Tammisaari 24.390, Uusikaupunki 17.040, while for Kristiinankaupunki was no official data, aside from the approximately 50.000 visitors the summer festival draws in every year. Uusikaupunki gathers most visitors within a narrow timeframe: the Crusell Music Festival, which lasts for a week and gathered more than 9700 visitors in 2007[376].

[372] See the definition in chapter 1.
[373] Official Statistics of Finland (OSF): Finnish Travel [e-publication].
ISSN=1798-9027. 2013, 4. Lapland and Kainuu the risers of domestic paid leisure trips . Helsinki: Statistics Finland [referred: 28.11.2014]. Access method: http://www.stat.fi/til/smat/2013/smat_2013_2014-04-10_kat_004_en.html.
[374] Ibid.
[375] Kuosmanen, Johanna. 2008. "MATKAILUKOHTEIDEN KÄVIJÄMÄÄRÄT 2007". Helsinki. http://www.visitfinland.fi/wp-content/uploads/2013/04/E57-Matkailukohteiden-k%C3%A4vij%C3%A4m%C3%A4%C3%A4r%C3%A4t2007.pdf.
[376] Ibid.

The main and most direct economic impact of a strategic intervention on the analysed region is linked with tourism and touristic activities. This type of touristic and economic boost in the area is based on value acknowledgement, protection and significance enhancement, legibility and promotion of local values. It is based on protection of heritage, empowerment of communities, support for traditional practices and activities, the understanding and assumption of a particular sustainable lifestyle from the local users. In each case it is important to understand the specificity of each site, the strong points and weak points, most of which derive from the understanding of the place, its history and development. The layers of significance need to be read both individually but also as part of the whole that we experience today. Local specificity of the wooden towns of Finland is closely related to the specificity and development of Finnish architecture and urbanism, which have been mentioned so far, but also possesses a certain uniqueness that can only be defined as "*genius loci*".



Map 19: Custom fence and gates around the beginning of 1700s. Source: the National Board of Antiquities



Map 20: 1756 Rauma town plan. Source: the National Board of Antiquities

1. Old Rauma

There are a number of characteristics differentiating wooden towns in Finland, some pertaining to the urban structure, some to the level of detailing or interpretation of different architectural styles. For Rauma some authors mention the Classicist language of the facades and the spare corner mouldings as being the differentiating attribute for the townscape.[377] Rauma[378] is also viewed as

[377] Suomalaisia puukaupunkeja 1995:10
[378] Dumitrescu, Anca. Dealing with change in the World Heritage Site of Old Rauma. Cities in transformation Research and Design. EAAE-ARCC. 2012. p. 38-41 available at: http://www.research.ed.ac.uk/portal/files/4992426/Brennan_Output_4_p570_libro_temi.pdf

one of the most representative towns where the Neo-Classical facade style was adapted at a high level of craftsmanship to the usage of wood. The layers form the 1880 and 1890 in Rauma are considered the most representative and visible at a wider scale than anywhere else in the historic Finnish towns.[379]

Town plans, heritage practice and Old Rauma today

The protection of historic groups of buildings has been clearly covered by international charters[380] and conservation guidelines, but the historic town is far too complex to possibly be covered by the same documents. Although there is a need for a common, internationally accepted professional language regarding the protection and conservation of urban heritage, one of the main problems faced by any international guidelines is that they risk being either too rigid, and cannot be followed to the letter, or too vague and can offer little support to the actual on-site practice. The fundamental role of UNESCO as guardian and promoter of Universal Heritage lies not only in its ability to analyse, validate and promote outstanding heritage, but also in its ability to provide a common language and reference systems for the scientific community. It is important to consider the World Heritage Sites' 'authenticity', 'integrity', 'outstanding universal value' and its protection and 'site management'. The local authorities are generally the ones analysing the values and specificities of the heritage and devising protection policies, filling the gaps left by the international charters. In Finland, however, the legislation does not cover the definition and protection of 'historic urban landscapes', as cities are legally protected through their Local Master Plans. Communication and threat mitigation tools can be better implemented through

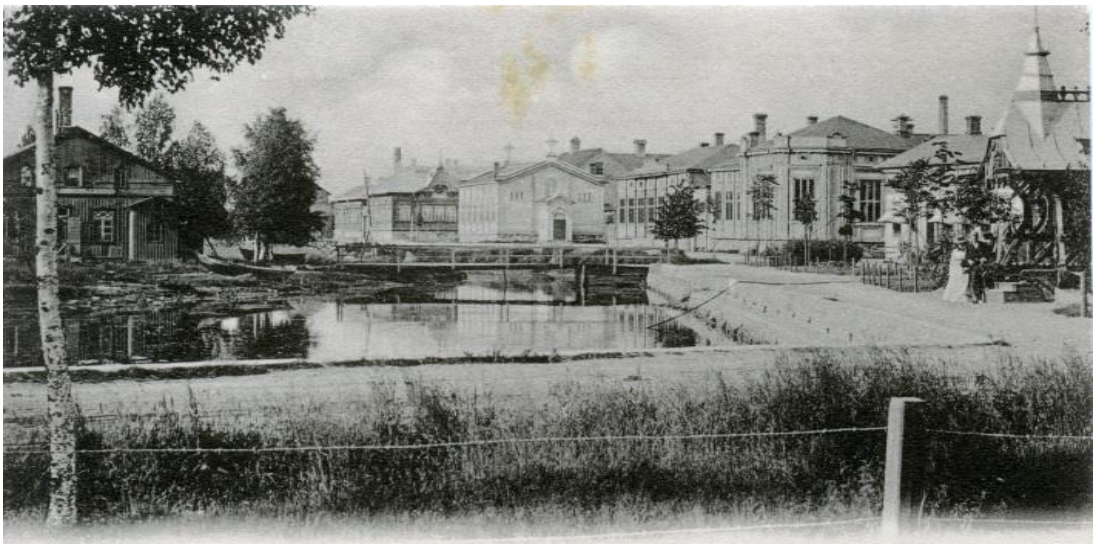


Image 22 Post card: Rauma's Canal 1890s. Foto Ida Berglund Source: Rauman museo Image code: RMPK383

management plans than local Master plans, given that they function as recommendations and are less prescriptive or normative.

The Finnish law and state agencies provide and control the general frame for the protection and development of the state owned heritage, but have a significantly lower authority

[379] Suomalaisia puukaupunkeja 1995:10
[380] starting with the 1964 "International Charter for the Conservation and Restoration of Monuments and Sites" (Venice Charter)

over privately owned heritage. Finland is one the European countries with the best protected property rights, and as such the participation of the private stakeholders is very important in validating the Local Plans. A better platform for negotiation between all stakeholders involved could improve both town planning and urban conservation in Finland's historic cities. Making the development plans available for public consultation before approval is therefore essential.

There is a different perception and attitude toward heritage between stakeholders that have inherited historic buildings and those who acquire them, aware of their historic value. Whereas heirs are more likely to appreciate the value of a property passed down to them through generations, they are also less flexible and willing to follow outside recommendations. In between these two categories of stakeholders are the 'renters' who use the property but since they do not own it, have little interest to invest in protection and conservation of the property. Renters are also the ones usually most affected by the protection and development plans, and the ones least represented in committees making the decisions concerning heritage.

Protection recommendations for Old Rauma's tangible components

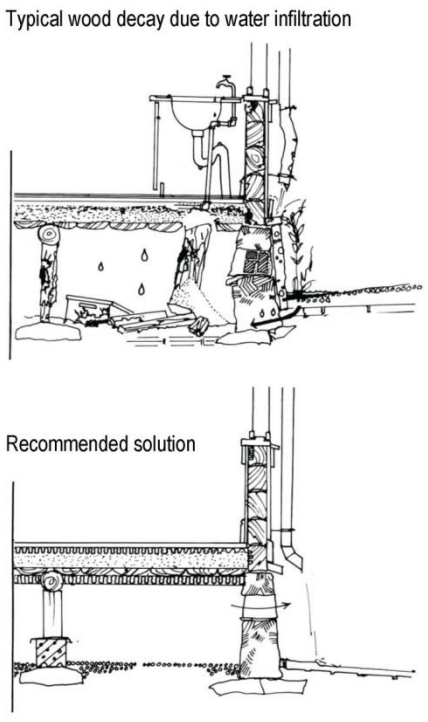


Figure 13: Wood preservation recommendation cards in Old Rauma. The decay focuses on water infiltration and related decay resulted from: interior water leaking, faulty rain water pipes, water infiltration to the basement from a faulty ground slope and faulty gutters, increased humidity from lack of basement ventilation, organic waste in a damp environment.

Old Rauma benefits from a number of recommendation cards for the repair of the wooden properties within the protected area. There are 11 recommendation cards[381] covering the specificity, conservation and repair of: the plots and position of building on plots; the arrangement and functions of the buildings on the plots; the fixed interior components; the facades; the specific water damage; entrance components: doors, stairs, porches; the windows; the roofs and associated components; the hurdles: fences and gates; the colours and paints; the signs and signal posts; the courtyards and gardens. From the first page of the recommendation set, it is specified that the elements holding most relevance, and which should be maintained as far as possible unchanged are the general exterior geometry of the buildings: size, height, roof shape and slope, the facades including details of doors and windows, the building materials, the colours and façade details. Although there are several recommendations of the preservations of the interiors, the main focus is on the exterior components, on the visible attributes of the area, described in 7 of the 11 recommendation cards. It is quite clear from this perspective that the elements to be preserved and that, as the recommendations imply, hold most value are those visible from the street or from the public area. This is a potential weakness of the conservation attitude as it

[381] Vanha Rauma - Old Rauma. 1992. [Rauma]: Rauman museo. p.54-72

suggests, at least for the everyday users, that it is possible and even recommended to preserve a form without content, a shell without any link to its interior substance.

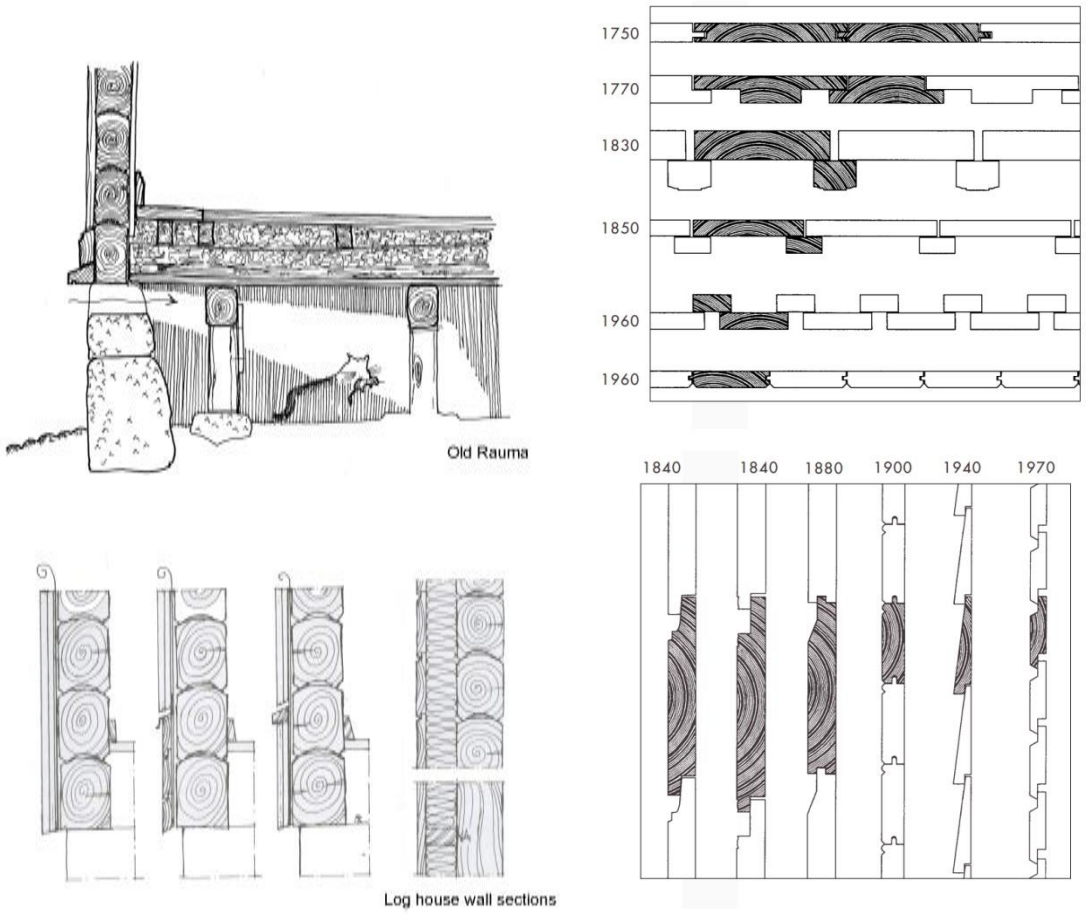


Figure 14 Old Rauma wall section of a house with high foundations and wall structure of log houses today in Finland as well as a historical evolution of wall cladding systems presented by the National Board of Antiquities. Source: Vanhan Rauman Korjausrakentamiskeskus Tammela, opas historiallisen puurakennuksen muutostöihin sekä korjausrakentamiseen perinteisin menetelmin ja materiaalein. Rauman Kaupunki. 1999;Vuolle-Apiala, Risto. 2005. Hirsitalo; Korjauskortisto. Ulkolaudoituksen korjaus. 3. Museovirasto. 2000

For new buildings and insertions in the area, recommendations are made to follow the general volumetric parameters of the historic environment, paying special attention to heights, roof geometry and the geometry and details of eaves, window positioning in order to align to the existing and to match the existing in terms of size, position, rhythm on the facades. The textures and colours proposed must integrate and match the existent. So in terms of new insertions, as long as the scale and façade details, rhythms and typologies requirements are met, there are no restrictions in terms of building techniques chosen, materials, nature of colours. However, these are the minimal requirements than need to be met and understood for building within the historic area. The information is condensed on one piece of paper to provide ease of use; therefore it does not provide all the relevant information. In this sense, annexes and additional documents could be presented to the user. It is important to understand what the traditional building methods have been in the area, and what the tolerated variability is.

Detailing is also important and generally improved details for new buildings, introducing for example thermal insulation or vapour barriers, are required by law. Therefore building a traditional 18th century house today would no longer be possible, nor would it be desirable. However, historic details are important for understanding the structural and thermal behaviour of the existing buildings as well as for their repair: retrofitting should not be attempted in historic buildings if it is not absolutely needed in terms of safety in use or hygiene.

In terms of specificity, it is noted[382] that the traditional walls in Old Rauma are built on a log system structure, with exterior wood panels on the outside and paint or wallpaper on a glued paper or cardboard support to the interior. The recommendations state that all repairs and modifications should conserve the character of the rooms: cardboard should be maintained as far as possible and only when the finishing can no longer be saved, it could be replaced by gypsum boards or other fibreboards. It is generally recommended that, unless they present signs of decay or fungal attack, the damaged or worn layers should be left behind the new interior boarding to provide information on the evolution of the finishing materials. Introducing new materials to the wall structure should be carried out making sure that no condensation will occur in the structure.

The role of ventilation is made clear, especially under the base floor –basement. The incompatibility of materials is also made clear[383]: in terms of interior finishes and paints it is important to use the same kind of paint for existing components: oil-based paints and water-based paints should not be mixed. The introduction of acrylic paints or any sort of plastic paint on the historic wooden components of the interior would be harmful for the wooden component, as it stops the natural moisture flow inside the wood. Waxing the floors is permitted only if the floors had been waxed previously – the argument in this case being maintaining the continuity. Waxing usually fills the wood cell, reducing its elasticity and preventing the free or bound water to flow according to RH variations. The surface of the waxed wood generally behaves differently from the rest of the wood mass. Coating existent objects and surfaces with the same type of coating as the one used before is generally recommended to the introduction of new materials. The main rule in this case is not to try and fix or improve what has been functioning well in the past, as the state of equilibrium in wood moisture is difficult to maintain and easy to disrupt.

Concrete for the interiors and generally in contact with wood should be avoided, since the difference in moisture content, as well as the porosity and absorption rate of the two materials will work in the detriment of the wood. For wet areas, vapour barriers, hydro-insulation and providing appropriate ventilation of the wooden sub- and superstructures are essential, as well as providing appropriate materials suitable for the purpose that would not get water or extra humidity to the wooden components. Saunas are not recommended[384] inside the main buildings, but could be fitted in the annexes or outbuildings. However, given the risk of water infiltration, increase in the moisture level, as well as the level of detailing and craftsmanship needed to turn an outbuilding into an operational sauna, the number of existing saunas in the historic area is still small, with several properties using the same sauna in different neighbourhoods.

[382] Ahoniemi, Anu, Nea Markela, and Kalle Saarinen. 1999. "Opas Historiallisen Puurakennuksen Muutostöihin Sekä Korjausrakentamiseen Perinteisin Menetelmin Ja Materiaalein". Rauman kaupunki. http://www.oldrauma.fi/pdf/tammelaopas.pdf.; Vahna Rauma.1992. Rauman Museo; Vanha Rauma - Old Rauma. Rakennukset kiinteä sisustus 3. 1992. [Rauma]: Rauman museo. p.59
[383] Idem p.65
[384] Idem p.60

In Old Rauma the general rule is the addition, not replacement. If new elements and fittings are needed for the contemporary user, they need to be added to the existing without removing the previous layers. Removing may be considered an option only when the decay in the component or system threatens the safety of the users and the integrity of the ensemble. Therefore wooden components are replaced locally according to the extent and severity of the damage, heating systems are doubled[385] leaving the historic heaters and chimneys in place for their ornamental value, layers are added to the walls leaving the existing wallpaper as a proof of development underneath. The combination of old and new is not made by replacement but rather by addition and integration. Re-use is very important in Old Rauma, varying from reusing equipment, stoves, to reusing windows and wood planks or components from partially dismantled structures.

Figure 15 Image: bank of spare parts. Picture Anca Dumitrescu 2012

The main façades are considered[386] a testimony of the 18th century Neo-Renaissance and Art Nouveau, and most of the historic buildings were modified in that period to meet the new aesthetic criteria of window size, decoration and typology, as well as the typical façade panelling system. The facades facing the courtyard, unseen from the public areas, often retain the oldest components of the house's facades: the oldest windows and boarding. This richness of expression and different layering of historical elements differentiated between public and private area are considered amongst the characteristics of the site: they add value, show the versatility and dynamic of the place. At the same time they are the most vulnerable as their destruction or replacement can go unseen. At this point, once again it important to stress the importance of the community involvement in the preservation of the site's values especially for these components that usually go unseen.

It has been noted[387] that already in the 1970s the base of the buildings, initially built in stone with or without mortar binding, had been covered by plaster or concrete. In the recommendations using concrete or plaster on the stone base in connection with the wood upper structure is considered both unnecessary and potentially dangerous in terms of impairing the ventilation of the subbasement and damaging the base.

[385] Ibid.
[386] Vahna Rauma.1992. Rauman Museo; Vanha Rauma - Old Rauma "Rakennukset: julkisivut 4" 1992. [Rauma]: Rauman museo. p.61-64
[387] Vanha Rauma - Old Rauma. 1992. [Rauma]: Rauman museo.p73

For the facades, one of the important advices is that worn historic panels should not be replaced, but it is recommended to replace rotted components. The horizontal lists of the facades are the ones most prone to decay and rot, and therefore it has been agreed that they can be changed periodically – this would be considered a normal replacement associated to the use of the property. In this case, the replaced parts should have the same material, texture, colour, and design as the original – a copy of the original. Especially when wood is concerned, there are frequent repairs or conservation measures involving partially replacing areas of the wood. In order to maintain the coherence of the ensemble and as part of their active use value, copies of the original profiles or components can and should be used without compromising the authenticity of the object. It must be remembered that this wooden World Heritage Site is still alive and in use, but on the other hand that repairs should be directed at small parts of the building: if half of the façade needs to be replaced, the repair work would become a rebuilding project. In this case, the main difference between a W.H.S. and an ordinary wooden building that needs to be repaired is the documentation process: for WHS the repair should be documented in drawings, photographs, written reports and, as much as possible, through markings on the newly inserted wood components. Innovation and new architecture are achievable in protected World Heritage Areas, but only on those plots that need new buildings as a result of hazard that rendered the plot empty: fire, demolition.

Figure 16: Water damage in Old Rauma. Picture Anca Dumitrescu 2012

In terms of water damage experience, as well as published reports, point out that in Old Rauma the most exposed and sensitive areas are the base and the elements close to the foundations, the roof and the facades next to faulty rain gutter systems, the incorrectly executed bathrooms and wet rooms allowing water to seep to the structural elements[388]. Often movement of the structure, dislodgement of the floors and structural destabilization occur before the biological decay factors appear. Wood found in direct contact with the ground, usually in the case of outbuildings and annexes, rots easily. It is therefore important to provide an intermediate layer between the ground and the wooden boards. Inside the courtyards walls covered by vegetation are more prone to rot as they maintain shade and a moisture level favourable for the development of fungi. On the facades, the areas most sensitive to water infiltration are the protruding profiles that hold water, window frames and window profiles, mouldings and wood decorations affected by rain water. Increased moisture levels and rot are usually recorded on the lower side of the windows and along the window frames.

[388] Old Rauma recommendation sheet 4.5: "Rakennukset ja vesivauriot"

Randomly associating plastic materials with wooden components: either as insulating materials, as binders, as local protection measures will likely result in fungal attack and irreversible damage. The modern systems available on the market often rely on additional mechanical ventilation systems, which are unadvisable for wooden historic buildings. By lowering the air exchange rate through the structure and decreasing the vapour permeability of the walls, the modern wall, floor or roof systems contribute to the increase of the RH of the interiors and therefore increase the risk of fungal attack.

It is important to maintain wooden components such as windows, doors and their frames, preserving their original colours and traits as their qualities are almost difficult to replicate in modern times. Resisting innovation such as new building systems, mechanical ventilation, new insulation systems is not a conservative attitude of old-fashioned professionals nostalgic of the ways things were, but rather an objective response to factors that prove that improvements often lead to decay. The traditional techniques and technologies used to process wood are important not only from the standpoint of the authenticity or intangible value of the craft, but also because it gives the wood component some traits that are unattainable through modern processing and that in the end prolong the life of the wood.

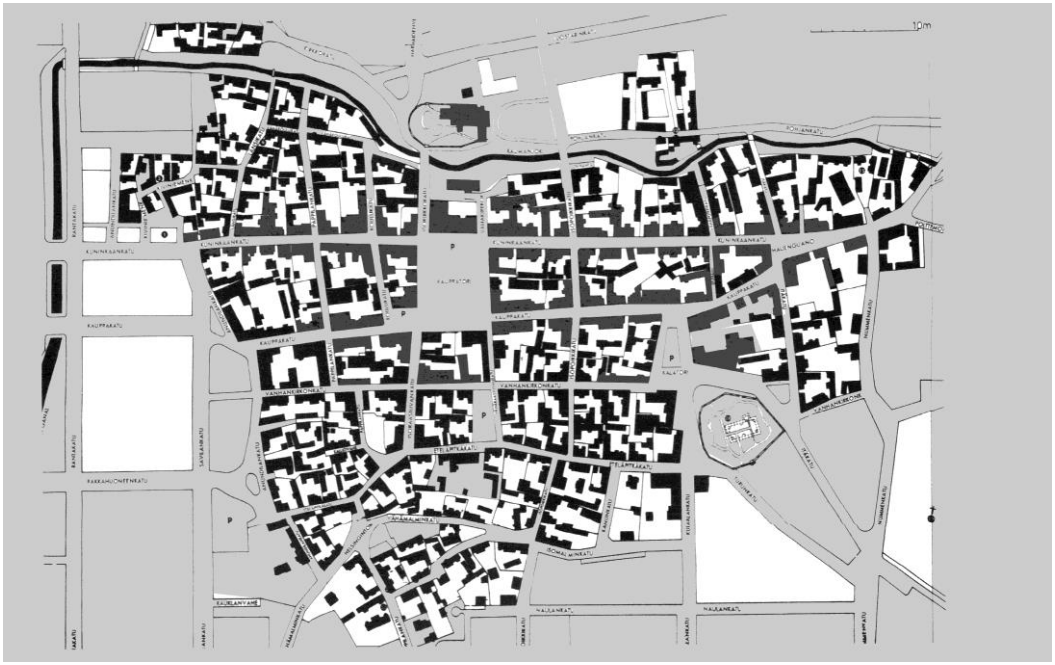
Knowledge of the properties of wood is important in order to understand why certain conservation measures are so important and why they should be implemented. Using historic wood for repairs instead of new wood is important for the structural integrity and behaviour of the whole ensemble; it is not a subjective preference of those seeking the aesthetically pleasurable. In order to prevent future decay, it is important to employ materials that are as close as possible to the original, in terms of wood species, wood density, fibre alignment, moisture content. Minimizing the impact of biological decay requires the maintenance of critical areas and surveillance of the humidity levels throughout the building.

Specificity, values, significance:

Rauma is a living town bearing a significant layer from the industrial era, which initially developed in close connection to the natural landscape of the coastline, and whose historical centre has been continuously inhabited. The break between different layers of development comes from the fact that only the 'historic centre' of Rauma was considered outstandingly valuable. In 1991[389] the ideas of a 'cultural landscape'[390] or 'heritage canal'[391] were not yet developed, so it is natural that only Old Rauma was analysed as a 'historic centre'. However, after the re-evaluation of the property in 2009, the only changes to the protected area were minor boundary modifications of the buffer zone.

[389] Old Rauma was nominated as a World Heritage Site in 1991, based on studies and documentation mainly elaborated and presented in the 1980s.
[390] 1992. WHC-92/CONF.202/10/Add La Petite Pierre. France. October 1992. 24 – 26;
[390]1992. WHC-92/CONF.002/12.The Operational Guidelines by the World Heritage Committee.16th session. Santa Fe
[391] 1994. Report of the Expert Meeting on Heritage Canals. Canada. September 1994

In terms of **'authenticity'**, Old Rauma's historic layers are more often than not truthful to their original design, traditional use and techniques, spirit and feeling, and surprisingly truthful to



Map 21. Public and private spaces of Old Rauma.White within the protected area represents the private areas.

their original substance, thanks to the town's bank of spare parts[392].

However, given the perishable nature of wood, the authenticity in material and building substance has to be considered in a flexible manner, as the replacement of original elements is often unavoidable. The continuous use of the town makes it difficult to establish a clear hierarchical relation between authenticity in spirit and feeling and authenticity in design, thus resulting in inconsistent, contradictory and sometimes duplicitous planning decisions.

'Integrity' when referring to historic urban landscapes, must be linked to the idea of urban coherence, accessibility and legibility. 'Integrity is a measure of the wholeness and intactness of the natural and/or cultural heritage and its attributes'[393] and as such can be expressed in an objective, scientific manner.

Rauma is an example of "a community that has reached an equilibrium consolidating different relationships, and having an optimised use of the available space. As a result, while the production may continue, this does not necessarily result in a physical growth of the areas occupied."[394]

[392] Vanhan Rauman varaosapankki, established in 1974.
[393] Anon. 2008."*UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention*." http://whc.unesco.org/en/guidelines. (accessed january 2012)
[394] Jokilehto, Jukka. 2010. "Notes on the Definition and Safeguarding of HUL." City &Time 4 (3). http://www.ct.ceci-br.org. p .48

In the case of Old Rauma, only about a third of the area's sites are accessible as part of the public space, so there is a difference between the 'perceived whole' and the actual scale of the historic core, which means that one can access and experience only a portion of this universally valuable site. The legibility of the site and its presentation become in this context additionally important. Another important aspect linking integrity to authenticity is that the life and development in a living urban centre is a continuum - the urban coherence. If the continuum is broken by defining administrative borders instead of connections and networks, the resulting pieces risk losing part of their authenticity in spirit, becoming a 'museified' piece of heritage.

Image 23. Identity in Old Rauma. Picture: Anca Dumitrescu 2011

Another point needing to be scrutinized is whether the historic centres in their entirety, with their multi-faceted layers of history and significance, are made legible and accessible to the users so that they may understand and appreciate their 'integrity'. Accessibility in this case refers mainly to conveying meaning and informing the users: knowing the history of a household and understanding its particularities does not mean transforming a private area into a public exhibition space. Alternative methods of communication, presentation and offering information to users can be employed both on-site as well as on a virtual platform. Nowadays Old Rauma is only partially accessible to users, in terms of both on-site accessibility and easily available information. However, things are improving and Old Rauma is increasingly more visible online, where layers of its history can be presented and analysed without interfering with the user's privacy.

'Awareness' is another concept increasingly important nowadays for the promotion and conservation of historic sites, and it is usually associated with the identity value based on recognition[395] and on the emotional, subjective ties between the stakeholders and heritage. Identity in this context relates to the perceived values associated to the site by its users (Image 33). However, the identity of a place can also be defined by those elements that brought the place to existence: commercial roads, built landmark elements, monuments, natural landmarks. A break in the coherence of the historic narrative of the place can occur if these objective, tangible elements become devoid of their identity value, in other words if the elements that shaped a place no longer have meaning for the users. Raising awareness in this case can also refer to informing the stakeholders, and educating the public in order to reinstall the identity of the place, and can prove extremely useful in city branding.

[395] Feilden, Bernard. 1998. *Management guidelines for world cultural heritage sites*. 2nd ed. Rome: ICCROM. 18.

Image 25. Kalatori used as a parking lot. Anca Dumitrescu 2014

The management plan is intended to 'specify how the Outstanding Universal Value of a property should be preserved, preferably through participatory means.'[396] It is an essential administrative tool used to define the development and protection objectives and means to achieve

Image 24. Kalatori used in the 1900s and during fair days 2011. Source: Rauman museo Image code: RMK250_neg545_a and picture by Anca Dumitrescu 2011

them, while ensuring that the conditions of integrity and authenticity are maintained and enhanced. However, in some cases it risks becoming excessively pragmatic, failing to deal with heritage in a holistic manner. In Rauma[397] the management plans should also focus on aspects that cannot be regulated by law and the local plan, touching delicate issues such as the private property, private investments in the area and empowering the local users. Motivating the employees or, when heritage is concerned, the stakeholders, is an essential component of the management plan, and yet in some cases this issue it is left unaddressed. Motivating the users of historic centres can be achieved through various fiscal measures or economic levers, but it can also be achieved if the management plan can present options available for protection and provide scenarios for future development and sustainable use.

One of Rauma's characteristics is considered the clear differentiation between residential and commercial areas, expressed also at a street level. Trade and commerce have always been intrinsic to the life of Rauma, but in what continuity is concerned, commerce has not always had the same relation to the urban structure as it has today. The market places have shifted, the harbour has been moved, and the profile and nature of the commercial activity has changed

[396] Anon. 2008."UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." http://whc.unesco.org/en/guidelines. (accessed january 2012)
[397] A management plan for Old Rauma is currently being developed by the local authorities.

altogether. The typology and dynamic of commerce has also evolved, the ebullience of the main market, Kauppatori, hasn't always been the dominant of the place. The significance of the different areas of the town are apparent to most residents, but in terms of spatial planning the hierarchies and places of significance are not always apparent nor treated according to their value.

Old Rauma today-potential threats and weaknesses

Image 26 Traffic in Old Rauma. Picture by Anca Dumitrescu 2011

Old Rauma, with its two main commercial streets and Kauppatori as its main commercial market, is still a central part of the city and part of its commercial core. The role and position of Kalatori – the main historic, traditional medieval market – became secondary starting with Kauppatori's accelerated development of the 20th century. Therefore the traditional centre of the historic area has gradually been displaced. The issue is not reinstating Kalatori as the main market, as its historic timeline and authenticity would forbid it. From the perspective of the perception of the public space on the other hand, Kalatori currently presents itself as a residual space, where the buildings are missing for no apparent reason. It's historical relevance and value is not emphasized in any way as it currently functions as a parking space and occasional seasonal market. Kalatori is one example of value erosion due to inappropriate urban planning and inappropriate use. The historical significance of the place is incompatible with the present use: a parking lot is not only a secondary, auxiliary space to the historic area, but it is also meant to accommodate cars- specific marks of the 19th and 20th century. Although the contemporary life requires the presence, in historic areas, of elements incompatible with the dominant meaning of the place, it is usually the case that the auxiliary elements and functions are treated as such. In the case of Kalatori, its main function and use as a parking lot is found in contrast with the place's historic significance, present meaning and symbolism as a sacred place.

There was no perceived difference between the Old, historic Rauma and the city of Rauma until the 1940s[398]. Ever since the acknowledgement of the value and importance of the historic area[399] the gap between the historic and the 'contemporary' town deepened. Connectivity, flow, accessibility and traffic, in, from, and to the historic core are becoming increasingly important. Issues as the balance between pedestrian and vehicle access have been discussed and analysed without reaching a satisfactory conclusion. The aggressive changes of the 1960s to 1980s fragment the coherence of the previous historic layers. However, new interventions in the area need to bear in mind that the disruptive layers of the 20th century are already a significant part of history, with its own meaning and importance for the development of the town and its community.

One of the main problems of the town, underlined in different studies[400] is the weak connection between the old core and the rest of the city. The border between the old city and its surrounding areas can be read at a city scale, as granularity changes, but also in terms of style and design. Inwards, the area of the old historic core defined by its three strength points: the museum, the city hall and the church, is culturally and functionally much stronger than the all the other areas surrounding it. Although this functional triangle binds the city centre and gives it strength and personality, it also risks breaking the city's continuum as a whole by the difference in maintenance and conservation attitude. The difference in treatment and attitude between this area and its surrounding areas can reflect the stateliness of the central area, but should not be expressed through lower maintenance or conservation standards. The façades of the buildings within this area are often better maintained than those in adjacent areas, the street paving is maintained better and littering is kept under control by the authorities. It is important that a comparable level of maintenance is kept throughout Old Rauma, with similar conservation attitudes for buildings in the representative area as well as in the adjacent areas, similar levels of maintenance for the main façades as well as for the secondary ones.

The harbour area is still one of the main areas of the city. However, the contemporary harbour is part of the industrial area of the town, and has no visual or identity connections with the historic core. Nowadays, the main products are paper, pulp, cardboard, oil and chemicals, grain, general cargo, round wood. It is still "the largest paper harbour in Finland and the biggest container port on the west coast of Finland"[401]. The harbour is not destined to cruise boats, yachts and tourists. It is not destined to be used by the locals, who would rather use some of the many small jetties formed around it, since its main function is the industrial one. Historically the connection to the sea was much closer, presumably similar to other harbour towns where the sea is almost visible from the town itself- a visible connection. It is clear that in terms of both visual as well as functional connection Old Rauma cannot be re-linked to the sea in an authentic manner. However, water as an urban element re-connecting in principle the historic area with a natural element that determined the evolution of the place is still present, although little visible, through the Rauma river –Raumanjoki- and its Canal. In this case it is proposed to enhance the connection between Old Rauma and the waterfront through better planning and development of the Rauma River and selected relevant sections of the Canal. In terms of protection, the historic layers of Old

[398] Vahtikari, Tanja. "The (Self-) Perception of the Historic City: Case study of the Finnish World Heritage City Old Rauma". Paper presented at the Seventh International Conference on Urban History, Athens-Piraeus, October 2004.4
[399] The interest for the historic value of the towns appeared in the late 1940s, culminating with the 1972 congress on Nordic wooden towns.
[400] Hakanpää, Päivi. 2009. Rauma-Raumo. Kaupunkiarkeologinen inventointi. Museovirasto.http://www.nba.fi/fi/File/708/rauma-raumo.pdf (accessed January 2012)
[401] Rauman satama. 2014. Available at www.portofrauma.com/handbook last accessed June 2014

Rauma reflect in their great majority the history of the area prior to the industrial era. Many of the buildings of the 20th century are overlooked when considering the protection of the site. Particularly buildings, layers and additions of the 1960s, 70s and 80s are considered disruptive for Old Rauma's city scape. In some cases, the decisions taken emphasize all historic layers of the building, but often the replacement of either facades or buildings risks erasing historic layers from the fabric of the city. In some cases the modifications of a building's mass, roof, façade texture or openings is considered the best solution for the building's integration in the historic area, although this means denying its historic authenticity.

It has been noted[402] that research and re-evaluation of the overall values of the site, considering all the stakeholders, has not been made. Information should be openly accessible to all, task difficult to achieve, considering firstly that most of the studies and documentation were elaborated in the late 1970s, and secondly, in terms of on-site accessibility, that heritage owners are nevertheless entitled to their intimacy and privacy.

The identity of Old Rauma also resides in the typology and the feeling of the courtyards, most of which are privately owned. A recent initiative allowed for visitors and townsfolk to visit these private areas for a week during the summer. The initiative has been welcomed by visitors and locals alike, as the desire to explore the less known face of the town allowed them to get a better feeling of the place. This brings into attention once again the fact that Rauma is a dual city: a city of life and a city of culture, a city of privately owned houses and a city of public functions. There is an obvious need for a better negotiation between these two facets and for the usage of modern surveying techniques and systems for information dissemination that haven't been used so far in Old Rauma. Virtual models and walkthroughs, online databases exhibiting some of the private layers of Old Rauma, that the owners would like to share with the community, would allow for a better and non-invasive understanding of the place.

As stated in chapter 2, aside from the development pressure in the buffer zone there are no immediate threats to the values of the protected area as defined by UNESCO. As for the authenticity and integrity of the site viewed as H.U.L., change is still a reality of the site and the historic centre is a living one. Recent efforts have been made to acknowledge this change. Historic layers from the 1970s – '80s are being re-evaluated, and gradually beginning to be accepted as part of the evolution of the town. There is still some resistance against the addition of contemporary layers, but it is becoming better understood that authenticity can be kept only through the truthfulness of architecture in respect to its moment of creation. Maintaining the Outstanding Universal Value is not problematic, but the unexploited possibilities of enhancing the existing values decrease the potential future value of the site. The site welcomed an estimated 70.000 visitors in 2009[403], which means that of the world heritage towns in the Nordic countries, Rauma is the least utilized by the touristic industry, leaving a huge capital underutilized, but at the same time minimizing the negative impacts of the increased touristic exploitation.

Overall the main issues to be addressed, that have so far been only partially solved and need to be re-assessed would be: a better communication and negotiation platform set in place for the various stakeholders; better community involvement in the conservation and development of the entire area; re-defining significance of the site and an accurate buffer zone; re-establishing the connection between the natural landscape, the natural elements of specificity

[402] Räihä, Ulla . 2005. Vanhan Rauman asemakaavan muutoksen tavoitteet . Rauma. (http://www.rauma.fi/tevi/kaavoitus/kuvat/VR_amk_yleistavoitteet_L050415_osa3.pdf accessed January 2012)
[403] "Rauma Sea and World Culture." 2009. Rauma. http://twinning.kaposvar.hu/ger/downloads/2009/3aKaposvar2009.pdf.

and the built environment, mainly through the enhancement of the river banks and the Canal; traffic and parking analyses and plans carried out considering the safety and wellbeing of the local residents, the conservation of the tangibles – the built heritage- while considering the intangibles; maintaining the life in the small business within the historic area; maintaining a degree of comfort for all those involved; improving the connectivity and the legibility of the site.

2. Old Porvoo

Map 22: Porvoo in 1696, Samuel Broterus Source: RA Lantmät. Lev. 1892 nr. 21. Porvoo museum

Old Porvoo has been Old Rauma's main competitor in the UNESCO enlistment process.

Second oldest city in Finland after Turku, Porvoo has always been in the privileged position to be a node in the commercial routes and main roads of Finland, especially the road from Turku to Vyborg (Viipuri). As a historic urban landscape, Porvoo had been acknowledged only partially: stressing the value of its historic tangible components and the importance of functional continuity and functions in general. According to most of the studies the "*genius loci*" seems rooted in the historical evolution rather than on the environmental context, while the local users and stakeholders are not even considered as bestowing value on the place. At most the users are those that need to abide by the regulations and have the veto right in some town planning decisions. The dynamic nature of the place is considered only partially in the sense of functional value and economic use.

Old Porvoo now

Map 23: Porvoo town plan now. Source: Google maps 2010, town plan 2007

Old Porvoo currently covers 18 hectares, 250 residential buildings and 700 outbuildings[404]. The oldest remaining historic buildings of the site date back to 1760, after the last major fire to consume Old Porvoo's building stock.[405] The first eight masonry buildings appeared in Old Porvoo between 1750 and 1770.[406] The shore buildings once used as depositing houses and granaries are nowadays used as living quarters and storage spaces. In 1740, when Porvoo had over 1600 inhabitants, it was the second largest town in Finland. Nowadays Porvoo has a population of 48.700 in the city[407]of which 700 inhabitants in Old Porvoo. Most of the inhabitants, around a half of the total population[408] work in the trade and services area which suggests that, amongst others, tourism is one of the biggest industries in the area. Additionally it has been estimated[409] that over 100.000 tourists visit Old Porvoo yearly, one of the highest number of tourists gathered by a historic wooden town in Finland. In terms of traditional crafts and products, most historic occupations have been lost, so very few traditional products are still being made on site.

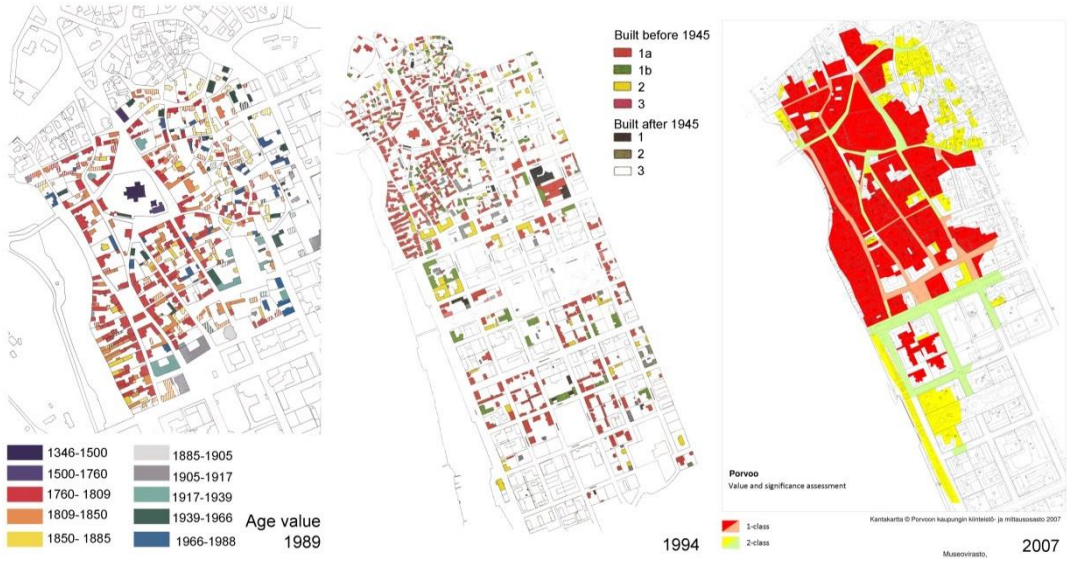
One of the town's most significant strong points is its connectivity to the major hub of Finland: Helsinki. Porvoo is situated 50 km east of Helsinki, connected by public transportation by bus, occasionally by train, boat, or private transportation by road or by sea. The distance can be covered in roughly 30 minutes from Helsinki, making Porvoo one of the historic sites best connected to the capital. Although gentrification and changes in the traditional population

[404] Up-to date statistics from the official city website: www.porvoo.fi
[405] El Harouny, Elisa. 2008. "Historiallinen Puukaupunki Suojelukohteena Ja Elinympäristönä". Oulu University. 193
[406] Idem, p194.
[407] survey published on the city's website www.porvoo.fi
[408] Information gathered from Porvoo's touristic office, also avaliable: http://www.visitporvoo.fi/ las accessed July 2014
[409] Estimated tourist numbers are depending on the rounded sum of the recorded yearly overnight stays in the hotels, campings and accommodation facilities, considered together with the recorder number of visitors yearly to the various museums and attractions of the site. Limitations: the figure does not consider the number of tourist vessels that entered the harbours, overnight stay of tourists to friends or relatives, or any other indicators.

structure can be threats, especially considering the pressures from the Helsinki region, Porvoo benefits from the advantage of its position especially in terms of living continuity.

One of the main threats of the old town, as it has been for centuries, is fire. Fire studies and efficient, integrated fire protection systems need to be integrated in a discrete manner to the existing properties. Risk preparedness studies should also consider two major hazard sources: water and humidity in relation to wood, and fire. Since the value of the place is generally known by the users of the site, Porvoo being one of the historic towns which benefited from most studies and awareness raising programs, most of the threats to the site result from the ephemeral nature of wood.

Building plans and reference town plans



Map 24: Old Porvoo's values. Sources: Vanha Porvoo 1989 p.4-5, El Harouny 1994, Museovirasto 2007

The first mention of the town's aesthetic values and importance as well as the need for its protection was made in 1898 by the Swedish artist Louis Sparre[410], following the town plan elaborated by Carl Ludvig Engel in 1832[411] and which threatened to demolish and replace the entire urban structure of Porvoo Louis Sparre's lectures on the aesthetic values of medieval towns, using Porvoo amongst the examples, sparked the subsequent conservationist attitudes aimed at preserving the cultural values of the historic Porvoo.

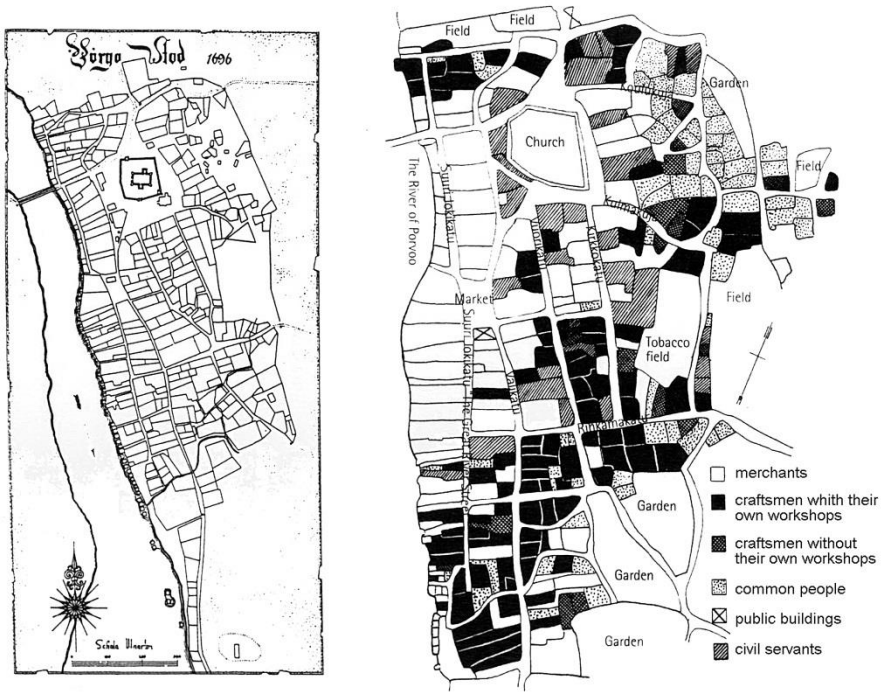
The first conservation plan for Old Porvoo in today's view, containing protection measures for representative and valuable buildings was made in 1936, while the first preservation measures can be dated back to the 1911 town plan. Subsequently, Porvoo was the first Finnish historic town to benefit from the discussions and solutions proposed during the 1972 Nordic Wooden Towns Convention and the first to have a conservation plan developed in 1974 and implemented by 1975. The 1975 protection plan was based on three other previous plans: the

[410] "Porvoon Keskustan Asemakaavallinen Selvitys 1970." 1971. Porvoo
[411] Town plan of 18.8.1832. Mäkelä-Alitalo, Anneli. 2000. Porvoon Kaupungin Historia III 1809-1878. Porvoo kaupunki: WS Bookwell Oy.64-65.

first assessment of the historic buildings' condition which was carried out in 1968, a real estate study in 1970 and a building register study in 1971.

The protection and conservation strategy valid to this day was fully elaborated in 1974, with some subsequent modifications due to the advancements in the legislation targeting heritage. The studies elaborated in 1974 were further refined and expanded in the 1990s, and stood as a model for Integrated Conservation in Finland.

Functions and intangibles as elements of specificity needing protection



Map 25. Old Porvoo a town of crafts. Source: Paakkala, Mia, and Satu Paakkala. 2004. A Travel Guide to the Handcrafted Porvoo. Old City. Edita Prima Oy. 196-199 based on Samuel Brotterus 1969 map drawing Jukka Paaso and Nils Hedengren 1798 map, drawing C.J Gardberg

The Historic Urban Landscape is a historic place of social value, where the users, residents, traditional functions and dynamic of life are equally important to the tangible heritage itself. Preserving the tangibles in a H.U.L. starts with the understanding, protection and preservation of traditional lifestyles and crafts, followed by empowering traditional users and communities.

In this sense, the functional diversity, the handicrafts and traditional crafts have been one of Porvoo's strong points. Some of the traditional occupations have been lost, or are superfluous for the contemporary society. Nevertheless, the tradition of the handicrafts and the typology of the crafts remain, although the techniques and products changed. Aside from having one of the oldest shopping streets in Finland - Välikatu, Porvoo has always been a market town, a traditional form of public space. Since the 13th century the marketplace next to the church served as the public space of the town.

For Historic Urban Landscapes, the traditional activities and crafts as well as their continuity on site are important and they help identify the "*genius loci*". The main problem encountered in establishing the traditional activities of Finland's historic trading areas, their

progression as well as in making comparisons between various towns, has been the scarcity of primary sources documenting traditional crafts and craftsmen in the medieval Finnish towns.

However, there are mentions[412] of fur trading in Porvoo since 1404[413], fishing, agriculture, trade, Porvoo being one of the main trading centres meant to rival Reval[414]. In this sense it was of higher importance for the Finnish economy than Rauma. In 1540 tailor and smiths were recorded[415] practicing their trades in Porvoo, carpenters in 1550. All throughout the 16th century, artisans and craftsmen were outnumbered by those working in agriculture and commerce: still the dominant trades. German influences were felt in various guilds throughout the 17th century, due to a number of German-born craftsmen[416]. German influences can also be related to the town's architecture, however, to a lesser extent than in case of Old Rauma. Gold and silver were valuable[417] commodities prized and carefully controlled by wealthy clients such as the church or the crown. By the end of the 1600s the number of craftsmen surpassed that of the merchants. This disproportion between the number of merchants and the craftsmen would become a characteristic of Porvoo. In the 17th century, the town had its own linen production[418], enough to go to export, turners, a printer and a clock maker. In 1669 the guild order was passed regulating the status of craftsmen in the town[419]. At that moment Porvoo already had a number of operating guilds, the first one to be officially recognized and documented was the weaver's guild[420], followed by the cobblers and the tailors.

The 18th century began with the complete arson of the town by Russian troops in 1708, followed by the Russian occupation of the town in 1713. Life returned to normal and townsfolk returned to the city after the 1721 peace treaty. In the meanwhile a new guild system had been passed in 1720[421], so the craftsmen had to align to new legislation upon their return to the town. Although the differences between manufacturers and craftsmen were hardly noticeable in terms of production processes, the new legislation awarded manufacturers more freedom and rights, which prompted the foundation of a brick factory in 1724, a tobacco as well as a sail fabric factory in 1744 and set the path for the industrial era. Manufacturing plants, precursory of the industrial factories, were free of the guild system, which allowed them to grow more rapidly and unrestricted. The 18th century, was a period of economic growth and industrial flourishing. A number of traditional shops and handicrafts were recorded in the second half of the century: linen and handmade products in shops, goldsmiths, cheese and butter stores, men's clothing, watchmakers, weavers on Jokikatu, bakery and confiteria -Brunberg- on Välikatu, blacksmiths, and

[412] Gardberg, Carl Jacob; History of the Architecture and Habitation of Old Porvoo; p.189-205 from Handcrafted Porvoo : a travel guide to an old city. Helsinki 2004.
[413] Ibid. Fur was a significant trading item in the region until the late 1500s.
[414] Hakanpää, Päivi. Porvoo-Borgá: Kaupunkiarkeologinen inventointi. Museovirasto.2008.p.9
[415] Paakkala, Mia, and Satu Paakkala. 2004. Handcrafted Porvoo.A Travel Guide to the Old City. Edita Prima Oy.
[416] Such as the goldsmith Jacob Heffner who became mayor of Porvoo during the early 1600s
[417] Throughout Finland in the 17th century, the maximum number of goldsmiths operating in the same town was two: recorded in 1620 in Porvoo. This suggests that the town was particularly rich and influential at the time.
[418] Porvoo became one of the major linen producing centres of the Finnish-Swedish kingdom, suggesting that the town was a major economic point on the map of the kingdom.
[419] From this point onward, all masters of trade had to be members of a guild and their craft was passed over from master to apprentice. A membership fee had to be paid in order to be part of any guild, and the number of masters at any given time was limited in order to limit competition and keep the price levels.
[420] Recognised in 1662, and officially instated in 1669
[421] The new system, valid to this day, stated that the apprentice had to undergo a number of years of training, followed by an examination and the obligation to travel around for a given period of time in order to be taught by different masters. Cultural exchanges between different craftsmen centres began, and new influences were felt in Porvoo originating in distant regions

glass production as well as numerous retail stores. The trade had become more varied and the craftsmanship changed its specific product typology, coming closer to what we witness today.

From the end of the 17th century to the middle of the 18th century, Porvoo had been the most influential and the biggest craftsmen centre in Uusimaa and Häme, with the biggest number of recorded guilds and craftsmen. At the end of the 18th century there were more than 30 guilds represented in the town, and some craftsmen were summoned to Porvoo if their guilds were not represented[422] . In the late 1790s, the comparative number of artisans in various cities was: Vyborg - 38 artisans, Loviisa - 67, **Rauma - 40**, Pori - 78, Pietarsaari - 40 and Kokkola - 41, while **Porvoo had over 100 artisans** representing more than 20 different industries. The 18th century town, was one of artisans and craftsmanship, one could that the most extensive and influential in Finland, clearly outranking Rauma.

In the 19th the weaver guild recorded a serious decline after the linen factories' production drastically reduced the prices on the market, especially after the introduction of cotton in the mid-18th century. In 1869 the guild system was discontinued, although craftsmen continued to colligate in different forms and associations. From 1879 the financial politics of the Empire introduced the freedom of enterprise thus permitting practice of any craft to anyone who chose it. The latter half of the 19th century was marked by the disappearance of the craftsmen and the formation of new classes: the middle class and the working class, affecting the very structure of the Finnish society.

It is in this period that, influenced by the "Arts and Crafts" movement, John Ruskin and William Morris, Swedish artist Louis Sparre decided to turn Porvoo into a centre of Finnish design and handicraft by founding a factory of industrialized art. The Iris Factory opened in 1897 and relied on the work of skilled craftsmen still living in the town. Carpenters were some of the highly skilled craftsmen the factory would rely on. Although the factory struggled to survive on the market and finally became bankrupt 5 years after its opening, the Finnish design industry is said to have sparked from this initiative, and placed the town of Porvoo as the first centre of Finnish

Image 27: Commercial life in Old Porvoo. Picture by Anca Dumitrescu 2012
Map 26: The urban areas of Välikatu, Jokikatu, Kirkkokatu, Kirkkotori marked on the 2007 plan

[422] In 1729 the town of Porvoo invited the bookbinder journeyman Bergman from Stockholm to represent its guild

design. Porvoo's evolution and traditional place as an artisan's and design centre can orientate future development of the town. It can be argued that, looking at the development of arts and crafts in Porvoo, the Old Town can be placed at the heart of Finnish small scale handicraft design. The artisans producing and selling their goods in their studios and shops along the commercial streets of Old Porvoo are part of the "*genius loci*" and specificity of the place.

The urban areas of Välikatu, Jokikatu, Kirkkokatu, Kirkkotori: the streets, markets, stores which occupied the forefront or the first story of the buildings, the public buildings, formed the public space on which the city's life was built upon. Functionally these areas are among the most significant, their conservation being dependent on the preservation of the intangibles.

Since the 1970s[423], Finland began paying attention to its urban heritage focusing more on the preservation of the traditional historic town. The element of specificity and value had to be found in the form of the "wooden town" as Pekka Kärki as well as Henrik Lilius defined it. However, at the end of the 1980s, there was a need to pinpoint the one place which embodied the specificity and expressiveness of the Fennoscandian region, and for Finland this meant to decide which of its historic cities holds Outstanding Universal Value. Finland, a member state of UNESCO since 1956[424], had ratified the World Heritage Convention in 1987, and started the nomination process for its most significant sites soon after, in 1986[425]; Old Rauma and Suomenlinna were the first to be nominated and enlisted. At the time –before 1991- concepts such as serial nomination, industrial heritage, historic canal, did not exist. The historic significance, integrity and authenticity of Finnish cities were analysed, and the final decision had to be taken between two of the most coherent, representative, integer and authentic Finnish Historic Towns: Old Rauma and Old Porvoo.

One of the questions that still needs answering is why is it, although Old Porvoo had been such an important and vibrant economic centre historically, such a representative town in Finnish context, already benefitting from a relatively coherent conservation plan in the 1974, why is it that Old Rauma was chosen over Old Porvoo as the most representative historic town?

[423] Referring to the 1972 Nordic Wooden Towns Convention, and the events, studies and research it generated.
[424] http://www.unesco.org/new/en/member-states/countries/ last accessed 2012.
[425] Kärki, Pekka. Miksi Vanhasta Raumasta tuli maailmanperintökohde? Museovirasto. 2003. Available at http://www.rauma.fi/ymparisto/mptap2011_pekkakarki.htm (last accessed March 2014)

Between Old Rauma and Old Porvoo

Map 27: Old Rauma protected area and buffer zone, Old Porvoo historic area. Base map source: Maanmittauslaitos: http://kansalaisen.karttapaikka.fi/

According to Pekka Kärki[426], there were discussions and deliberations on whether to nominate Old Rauma or Old Porvoo as a World Heritage Site. In the late 1980s, the concept and especially the practice of serial nomination did not exist, so nominating both Old Porvoo and Old Rauma was not an option. After 1974, Porvoo had the most complete and clear conservation plan of all the historic towns of Finland. The analysis of the town looked at, in the 1980s, attributes associated to the contemporary concept of a 'historic urban landscape'. This placed the Management plans of Porvoo, as well as the conservation strategies and plans, way ahead of Old Rauma.

Old Rauma had on the other side a more cohesive traditional social environment, more traditional inhabitants, which can be seen and experienced even today. The intangible heritage, the lifestyles and the people were considered one of Old Rauma's fundamental qualities. The social structure as well as the functional diversity of Old Rauma were highly valued at the time of the nomination and were considered essential values of the place. Old Rauma preserved a great deal of its historical functional structure and diversity, as opposed to old Porvoo, where mainly the residential area has been maintained, as some of the historic areas of the old town have been significantly altered.

The authenticity of the place was another important differentiating criterion. Old Rauma was considered to have undergone fewer alterations than Old Porvoo. The proximity to Helsinki meant that Porvoo went through a more rapid and drastic gentrification process. It has been a wealthier town, compared to Old Rauma, but at the same time it had been 'modernized' and

[426] Kärki, Pekka. Miksi Vanhasta Raumasta tuli maailmanperintökohde? Museovirasto. 2003. Available at http://www.rauma.fi/ymparisto/mptap2011_pekkakarki.htm (last accessed March 2014)

changed to a greater degree. "Lack of funding and wealth may have saved the authenticity of Old Rauma"[427].

In order to analyse the stateliness of Old Porvoo, especially in relation to Old Rauma, it is important to look at their economic position within their region and within Finland.
What remained of Old Porvoo at the time of the debate was only a part of the initial historic town as opposed to Old Rauma which retained most of its historic footprint. The drive-through traffic mitigation was also an issue, historic Porvoo suffering more extensively by being cut in two by its main road. In Rauma, Tammela and the work of Kalle Saarinen[428] helped maintain the material authenticity of the historic fabric. Restoration and conservation in Old Rauma has been carried out according to international principles since the Tammela Renovation Centre started its activity in 1995[429], while conservation of tangible values and the care for the environment has always been important for Rauma's residents.

In 1998, during the elaboration of the documentation for the nomination dossier of Old Rauma, it was considered[430] that the documentation and travelling costs were too high, according to a memorandum on the budget limitations.

The evaluation process was somewhat subjective, based on local significance and cultural values considering the perspective of the users and inhabitants. Although the aim of the Outstanding Universal Value is to point out the specificity and the uniqueness of the listed sites, it was generally felt that the Nordic rural villages share a significant number of values derived from the specific culture and lifestyles, which makes it difficult to point out what is the most relevant example in terms of pure, objective values. "*Genius loci*" and the connection of the users with the site are aspects which are difficult to judge and quantify according to UNESCO's somewhat objective and rigid evaluation and value framework. In 1988 visits to the Heritage sites were organized, inviting professionals including the UNESCO Finland Director Anne Raidlin; the aim was to visit and evaluate a number of historic towns. The outcome of the visit was that Rauma gathered the most positive appreciation in terms of site interpretation and presentation, visitor experience, and care toward the architectural heritage. That does not mean that the other historic towns, part of the presentation held less value, or were less authentic, but that Old Rauma is the most legible site, easy to understand, which presented and therefore enhanced its values in the best manner. The communication strategies and presentation of the site played an important role in the evaluation process. In Old Rauma all the historic layers are present and easily distinguishable, starting with the medieval church as the unique artistic achievement.

Old Rauma was therefore recognized, in 1991, as an excellent example of an old Nordic wooden town, depicting the North European city culture and architecture. The **wholeness and integrity** of the site, the functional coherence combining housing, business, social life found in Old Rauma is ultimately what set apart this site from all the other. However, the fact that in their comparative studies other World Heritage Sites such as Røros, listed in 1980, mentioned and considered Old Rauma and not Old Porvoo as a comparison in terms of architectural expression

[427] Interview with Tammela's conservation architect Kalle Saarinen. 2013
[428] Conservation architect Kalle Saarinen is an expert architect for Old Rauma Renovation Centre Tammela, offering practical guidance on the design, renovation and restoration work taking place witin the protected designated World Heritage Site of Old Rauma
[429] Tammela's webpage: http://www.rauma.fi/ymparisto/html/tammela4.htm (last accessed March 2014)
[430] Kärki, Pekka. Miksi Vanhasta Raumasta tuli maailmanperintökohde? Museovirasto. 2003. Available at http://www.rauma.fi/ymparisto/mptap2011_pekkakarki.htm (last accessed March 2014)

and representativeness, suggests that Old Rauma has been considered a strong candidate for Finland since the late 1970s[431].

Balancing the living city with the tangible heritage after the enlistment can prove difficult, especially when the residents and users are tempted to keep and maintain "their" World Heritage Site in an "unchanging" state. The existing ends up being scrupulously conserved while new additions and insertions begin to have little or no place within the protected area. The living town, the Historic Urban Landscape is at risk of becoming devoid of life and prevented from changing.

Image 28 Physical changes in Old Rauma. Picture by Anca Dumitrescu 2012

In Old Rauma some modifications have been allowed even after the nomination, not without a certain degree of emotion. These include modifications of façades –mainly in terms of materials and less in terms of geometry-, modifications of the existing street pavement, and modifications of roof materials. This contravenes with the normal dynamic of the living town, but is the needed compromise which guarantees the site's authenticity.

Tourism is another key element to be mentioned. The impact of World Heritage nomination for any given site can vary from increased recognition, increased visibility, increasing tourist numbers, local community and tourism development, revitalization of local culture and crafts, increase in business variety, increase of the pride local communities take in their heritage but also overcrowding, degradation of local crafts and commercialization, decrease in privacy, degradation and decrease of the "feel" and spirit of local communities, a split between the world heritage site (WHS) and its surrounding areas.[432] For Old Rauma, its relative inaccessibility protected the site from excessive tourism pressures and 'moral wear', which does not hold true

[431] The nomination dossier for a property listed in 1980s, most probably started being developed in the late 1970s, considering both the elaboration time as well as the deliberation time. In the comparative analysis, sites of similar characteristics and value are considered, often other World Heritage Sites, pointing out the notable differences and common points between these and the nominated property. The fact that in Røros's nomination documentation Old Rauma rather than Old Porvoo was analyzed comparatively, suggests that at the time, professionals considered Old Rauma to hold similar relevance and value to Røros

[432] Jimura, Takamitsu. 2011. "The Impact of World Heritage Site Designation on Local Communities – A Case Study of Ogimachi, Shirakawa-Mura, Japan." Tourism Management 32 (2) (April): 288–296. doi:10.1016/j.tourman.2010.02.005. http://linkinghub.elsevier.com/retrieve/pii/S0261517710000397.

for Porvoo. Although the general recognition and appreciation of the site have increased, tourism is far from becoming a problem for Old Rauma. On the other hand, Porvoo, due to its proximity to Helsinki and relative ease of access by bus or cruise during the summer, has always been attracting tourists. Tourism changed the face of the historic city, changed the functional diversity and functional distribution, as businesses focus more, and nowadays dominantly on tourism. Judging from the touristic *mise en valeur* and presentation of the town, a visitor could assume that Old Porvoo is a World Heritage Site rather than Old Rauma. Tourism numbers and figures back up this assumption, and the inhabitants of Old Porvoo still dispute the nomination. Perhaps a subsequent serial nomination could satisfy all involved parties, although this should consider that Old Rauma is already a representative Nordic historic town, "the largest and most homogenous [wooden town] anywhere in the Nordic countries."[433]

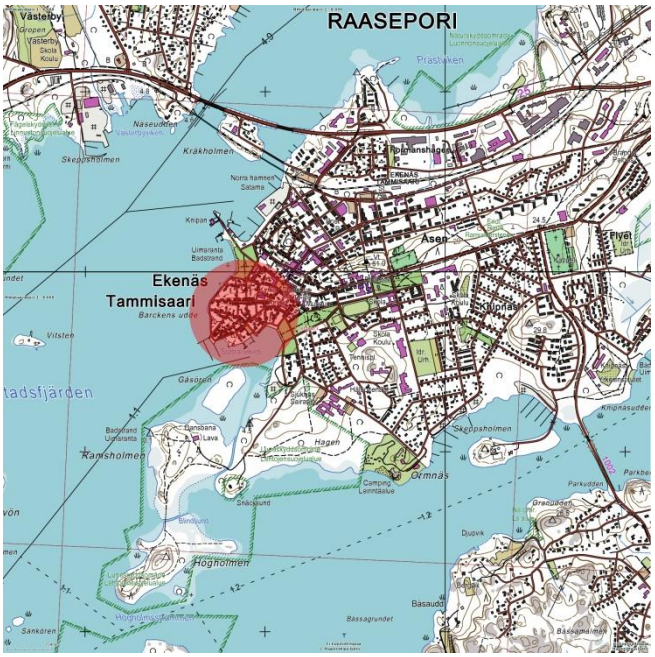
Other potential candidates

The relevance of the management plans for Historic Urban Landscapes is not limited for World Heritage Sites or their direct "competitors". On the contrary, the tool should be able to fit the needs of any H.U.L., preserving the values, significance, "*genius loci*" and outlining the optimal development directions at the lowest cultural and social costs. Uncovering the "*genius loci*" from a cultural perspective needs to compare trends and elements of specificity resulting from the historic evolution with the contemporary state. Outlining the significance and the problems of the sites should at least consider the duality of historic urban areas (living - city) and the aggregation of tangible, cultural elements: the architecture and urban components, with the intangible ones: functions, traditions and people: users and their attitude, lifestyles and attachment to the site.

3. Tammisaari

Map 28: Tammisaari, Samuel Broterus 1690. Source: Tallqvist, Tore. 1982. Gamla Stan

[433] Suomalaisia puukaupunkeja. Tammisaari 1995:34



Map 29: Tammisaari today. Red: the historic area. Source: MML ("Maanmittauslaitos")

The town now

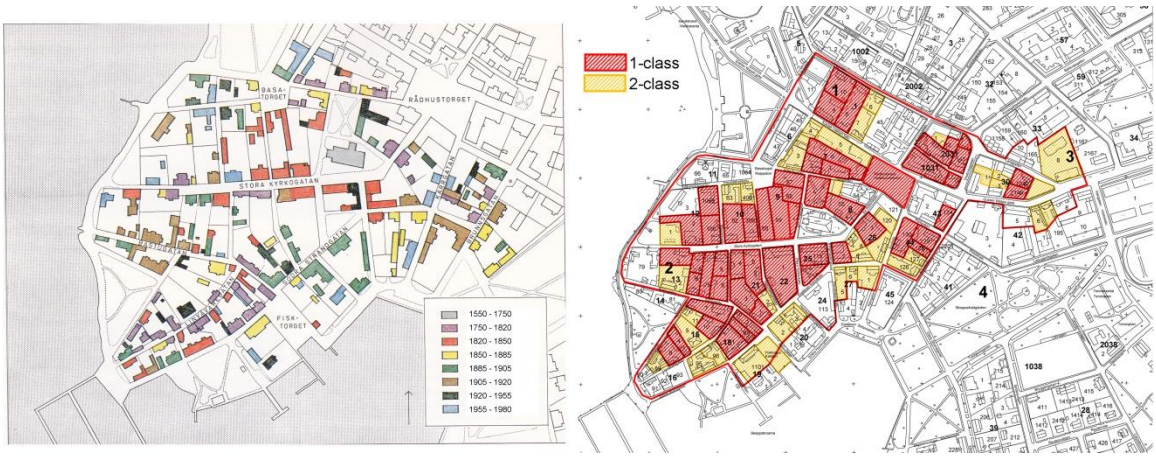
In January 2009 Ekenäs[434], Karis and Pohja were consolidated into a single town and the administrative city unit of Ekenäs was abolished. For Tammisaari therefore the difference between 'city', 'town' and 'municipality' is a rather significant one. The city could be defined by the administrative borders delineating the contemporary urban structure established in 2009. The town is the historical area of the old urban structure, while the municipality is the administrative area managed by the local institutions, combining both urban and rural areas. The population fluctuation has been significant over the course of history and has affected the outlook of the town. In 1650 the population was around 100 inhabitants, one hundred years later it rose to 500, another century later, in 1820 it rose again to 1200, while nowadays the city numbers around 15.000 inhabitants mostly Swedish speaking Finns[435]. The historic town draws around 40.000 tourists annually[436].

The buildings within the protected area were well looked after in terms of preserving the historic substance. However, little to no thought has been given to the development strategies at a city level, to the fringe areas, or areas outside the protected area. Nowadays around 62% of the buildings in the historic area, a total of 315 structures, are protected. "*Barckenin niemi*"[437] area is considered the most historically relevant and valuable area preserved in Tammisaari. Its geographic position between Helsinki and Turku, as well as its quiet, relaxed atmosphere makes it ideal as a retreat place close to the Finland's busiest business hubs. As such, the town is being developed and promoted as a retreat place, an alternative to the busy city life, a place with a strong identity, expected to house up to 36.000 inhabitants by 2030[438].

[434] Ekenäs being the Swedish name equivalent for the Finnish Tammisaari.
[435] The number of swedish speakers is relevant as it reflects an increased receptivity to western -Swedish- cultural influences.
[436] Measured considering overnight stays. Tourists differ from visitors in terms of the length of their stay; overnight visitors are generally considered tourists.
[437] In translation, the Barckenin peninsula
[438] The city vision made public on http://www.raseborg.fi/service/forvaltning last accessed March 2014

Values, specificity, significance

Besides the age value and the significance resulted from the historic evolution, one of the first noticeable traits is the relation to the sea. The settlement was formed around fishing and the



Map 30: Values in Tammisaari. Source: Tallqvist, T 1982. Museovirasto 2001

fishing industry which later evolved into far-reaching commercial trade. The geographical disposition and morphology of the urban structure in relation to its geographical dimension -its location on a promontory at the tip of a sand ridge- emphasises the historical and enduring connection to the sea that has shaped the community.

The stratification and coherence of historic layers belonging to different periods and specific for different functions and lifestyles is what gives the old town its dynamism and vibrancy. The way in which different layers, construction stages, elements and techniques are brought together and woven in one coherent urban entity is considered an element of specificity[439]. Historic continuity, both as a process as well as its manifestation in built form, is considered an essential trait of the old town, one that needs a holistic approach and management in order to be maintained.

The oldest inhabited areas are situated next to the current market place and in the vicinity of the church. As expected, the town developed and grew around its functional core defined by the market and the church in use up to this day.

Most of the town plans and preservation plans for Tammisaari focus on the value of age: the oldest elements are the most valuable and should be cared for with special attention as to preserve all aspects, since "thanks to their authenticity we can truly experience the age of the building"[440]. Undebatable, age value is one of the most important and relevant quantifiable values that can be attached to heritage. However, stressing the importance of preserving old elements with utmost care, based on an age analysis alone, regardless of other traits associated with the element is in sharp contrast with the holistic approach to the conservation. A decision for intervention or non-intervention should be made after a holistic value analysis as well as an assessment of the decay state and potential threats. The intangible dimension of heritage should also be considered. Additionally, all historic resources should be analysed considering the

[439] Mökkönen, Teemu. 2002. Tammisaari - Ekenäs Kaupunkiarkeologinen Inventointi. Museovirasto. Rakennushistorian osasto.
[440] Tallqvist, Tore. 1982. Gamla Stan I Ekenäs - Råd Och Riktlinjer För Byggnadsvård. Ekenäs: Ekenäs stad.p.21

tolerances and flexibility in terms of both physical as well as functional changes. In terms of maintaining values and authenticity of historic resources in a contemporary context, one should acknowledge there are limits that cannot and should not be crossed, usually associated with radical changes to the existent. Plans illustrating necessary changes should ideally be provided for all types of interventions in order to document and control changes. For Tammisaari this is a necessary step in order to obtain a building permit within the historic area. Although the interiors are essential to the site's authenticity and integrity, changes relating to the interior of the buildings: interior finishing and materials, usually do not require a building permit, and as such are hard to control or advise on. The planning authorities are aware and advise on the impact of small changes to the historic fabric.[441]

In value analysis plans, tangible components are mainly considered, while intangibles, stakeholders and communities are left out. The specificity of the place, the meaning the site it has for its traditional community are unknown.

Protection plans

The first town plans to focus on the protection of Tammisaari's heritage were made in 1959. Attention started to be given to the valuable heritage buildings, and increasingly more to the coherence of the historic urban town. However, interventions that lowered the authenticity of the place and of the buildings continued to be made such as: the reversion of the facades, of the panels, windows and colours, to an undocumented state that *could have been* typical for the late 18th early 19th century. Perhaps the intervention can be explained by the fact that the vertical boarding used up to the 19th century is considered most representative for the townscape of Tammisaari[442] and in part by the general preference for Swedish influenced models and building components rather than Russian.

The building on Sjöformansgatan 3-5 was returned to its 1800s state in 1962[443]. This kind of intervention typical for Viollet-le-Duc's restoration ideology of the 19th century reduces the authenticity and overall values of the building it affects, and is not in any way in consensus with the traditional Finnish building practice[444].

The building protection plan drafted in 1959, and subsequent studies considered some innovative aspects at the time. The building and especially its exterior is viewed not only as an architectural entity, but as a component of the urban landscape. Every building is an important piece depicting the historical dimension of the town, and regardless of its independent value it is an integral part of the historic urban landscape, without which the historic dimension would be incomplete. At the time the idea of the historic urban landscape did not exist, but the importance of the individual buildings for creating a greater urban picture is underlined by the responsibility bestowed on the owner: it is underlined that the exterior of the building is not only the owner's private matter. The antiquarian value of heritage, however, is considered the highest in the hierarchy of values, but is associated to well-maintained heritage, as usually users and non-professionals cannot accurately evaluate the age value in the absence of adequate

[441] Idem.p.30
[442] Suomalaisia puukaupunkeja 1995:10
[443] Tallqvist, Tore. 1982. Gamla Stan I Ekenäs - Råd Och Riktlinjer För Byggnadsvård. Ekenäs: Ekenäs stad.p.18
[444] developments which rest of pragmatism, efficient modernisations and improvements of living conditions.

maintenance.[445] Maintenance especially for wooden facades and roofs is considered one of the most important preservation measures.

Interestingly, in the protection plans[446] there is a differentiation made between 'timeless' and 'time-bound'[447] characteristics of the urban structure and architecture. Timeless characteristics, such as building material or patterns are defined as those characteristics common throughout the life of the urban settlement, whereas the time-bound characteristics are those which define the distinctive chronological layers in the history and structure of the settlement. Styles, fashion, detailing elements, building techniques sometimes fall into this category. Interestingly enough it is these time-bound characteristics that are considered most valuable and irreplaceable. No attention is given to the meanings, significance or impact they have had on the town. Legibility[448] on the other hand is considered of utmost importance for all management and protection plans. A key concept that has been gaining more importance for the past years[449] is the cumulative effect of minor changes. The studies conducted in the 1980s for Tammisaari draw attention to the fact that minor changes to facades or building details can have an unexpected negative impact on the townscape, and can potentially affect the character of the place. These ideas, however, are not contained in the restoration guidelines that followed.

The preservation plan stresses the importance of the communities and users of the town. Traditional users as well as newcomers should benefit from the same welcoming policies and housing programs, which should address the needs of users from all age groups or occupations. Functional diversity, the need to respond and accommodate contemporary needs, attention and consideration given to all stakeholders indeed relates to maintaining the liveability of the area, and preventing its museification.

Image 29 Different layers in Tammisaari's townscape. Picture Anca Dumitrescu 2012

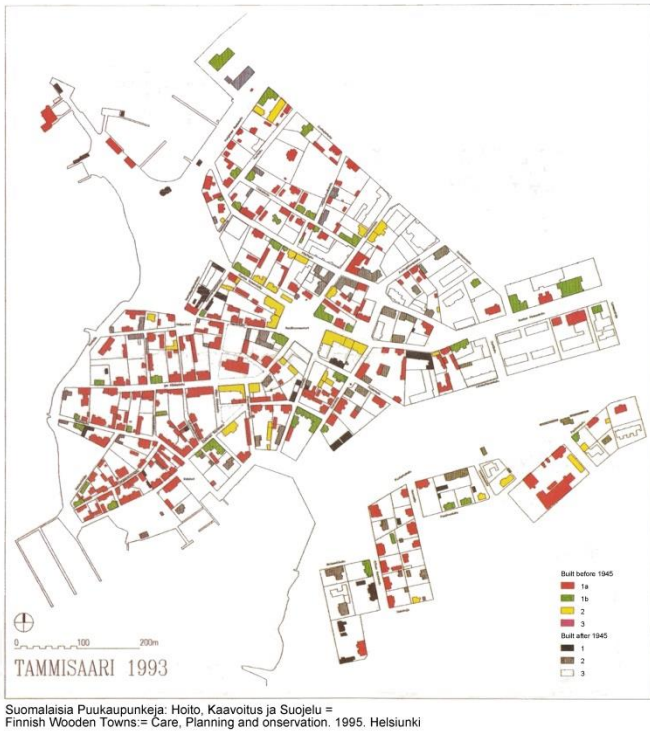
The maintenance plans are considered[450] as the most important first step in any preservation and conservation plan. Appropriate maintenance eliminates the threat of extensive damage related to extensive loss of old and authentic historic material. Maintaining an overall good state of historic properties reduces the number and frequency of major changes

[445] Tallqvist, Tore. 1982. Gamla Stan I Ekenäs - Råd Och Riktlinjer För Byggnadsvård. Ekenäs: Ekenäs stad.p.31
[446] Ibid.
[447] Tallqvist, Tore. 1982. Gamla Stan I Ekenäs - Råd Och Riktlinjer För Byggnadsvård. Ekenäs: Ekenäs stad
[448] Readability or legibility as part of the communication process between heritage and observer or interpreter, refers to the ability of a heritage object, in this case the historic urban landscape of Tammisaari, to be correctly understood and interpreted.
[449] Rianne Bennink. The Edinburg Approach to Urban Heritage: Why a Buffer Zone? during the 16th Annual US/ICOMOS International Symposium; The Historic Center and the Next City.
[450] Idem p.23

to be brought to the buildings, as well as the extent to which the changes affect the authenticity of the elements. Ongoing and periodic maintenance are both equally important for preserving the values of the building.

Modernization plans should be subject to more careful consideration, balancing gains and threats related to each project proposal. Running water, sewage, central heating, electricity, better insulation and thermal efficiency for windows are all improvements brought to the historic buildings, meant to improve life of the users and accommodate modern comfort in old houses. These changes come sometimes bearing a cost and risks that need to be assessed and addressed, such as[451]: increase in humidity, decrease of ventilation within wooden structures, mould and fungi development under the panelling, water infiltrations from the new water sources introduced, increased fire hazards, loss or changes brought to historic components: interior walls moves or demolished, repartitioning of interior spaces. Changes of functions and changes in the family structure often impact the building fabric. All these aspects should be negotiated, although they have been an integrating component of the town's life throughout its progressive process.

In terms of developments and urban improvements, attention is drawn to the fact that all fundamental building improvements assume an equally fundamental deterioration. Improvement to the street structure may affect the foundations of the historic houses, addition of street lights will modify and disrupt the atmosphere of the town, satellite dishes will affect the townscape and perceived image of the buildings as well as the surface to which it is affixed. Improvements brought to the existing historic fabric always include a certain degree of risk. For the new inhabitants it is important to make clear the limitations and restrictions associated with the historic property. Potential or new users should also be made aware of all the values or special characteristics of the property.



Suomalaisia Puukaupunkeja: Hoito, Kaavoitus ja Suojelu =
Finnish Wooden Towns:= Care, Planning and onservation. 1995. Helsiunki

Map 31: Tammisaari protected area 1993. Source: El Harouny:1995

Demolition of historic properties or properties within the historic area without reasoning relating to public safety or advanced state of decay and without, most importantly, plans for the insertion to take the place of the demolished building, should not be permitted, as it drastically decreases the authenticity of the place and lowers the overall value of the town, not to mention promotes the irreplaceable loss of historic resource. In places like

[451] The typical degradation of wood structures in relation to modern modifications is further developed on a principle level in chapter 4: Wood and the conservation of the wooden town.

Old Rauma, or Old Porvoo protected as outstanding heritage, economic or leisure resources, abusive demolition or replacement of heritage is tightly supervised and controlled. For other towns, like Tammisaari, in the border areas the historic property not marked or protected through town plans as heritage but which belongs to the historic area, properties that, for whatever reason, are left uninhabited and unmaintained for long periods of time, can be at risk of being replaced, because of their border condition.

The problems and weak points

One problem most visible in Tammisaari and that may become significant over time, is misusing or underusing existing resources. Although this does not affect directly the existing heritage in the sense of loss of value, underusing resources can be better understood by comparing how the community could benefit from the optimal use of the existing resources with the actual situation. The threat can be measured by understanding the cost of lost opportunity, and is in direct relation with UNESCO's guidelines with regards to protection and management of sites[452]. The opportunity cost or cost of lost opportunity is "the cost of an alternative that must be forgone in order to pursue a certain action. Put another way, the benefits you could have received by taking an alternative action."[453]

"To obtain more of one thing, society forgoes the opportunity of getting the next best thing.[…] An opportunity cost—the value of the next best thing forgone—is always present whenever a choice is made."[454] It is not the sum of available alternatives but rather the value of the next best use. The opportunity cost of a city's decision to make an investment or build a public building on a plot equals to the loss of having any other alternative use or function for that plot or building. If the optimal choice has been made, the cost of lost opportunity is minimal. In economics the alternatives are usually mutually exclusive, therefore implementing one means denying the possibility of any of the other alternatives to be implemented. For a city the highest opportunity cost is the decision of non-intervention in areas under threat. In Tammisaari, and generally in the Finnish historic town the opportunity cost is expressed by the potential gains lost because of non-intervention or underuse. This can refer to underuse in the tourism industry, underuse of areas and individual structures in a way that would maximize gain without loss of value, or it can refer to the properties left without any kind of use over long periods of time. From the perspective of tourism, the cost of lost opportunity can be illustrated by the discrepancies between the most touristic places such as Porvoo -threatened by real estate and building investment pressures- and the least touristic places such as Kristiinankaupunki -affected by urban shrinkage.

From an architectural perspective, one of the acknowledged problems of the site is reusing, on one hand, or not using at all, on the other, some of the annexes, historic outbuildings and structures that are no longer suitable to the current lifestyles[455]. From the perspective of preserving the historic urban landscape: functions, uses, communities, traditions alongside the

[452] Referring to enhancement: "the Outstanding Universal Value, including the conditions of integrity and/or authenticity at the time of inscription, are sustained or enhanced over time." "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines. II.F 96

[453] "Opportunity Cost". Investopedia. Retrieved 2014-03-02.

[454] McConnell, Campbell R., Stanley L. Brue, and Sean M. Flynn. 2011. Economics: Principles, Problems, and Policies. McGraw-Hill/Irwin; 19th edition.p4-5

[455] Tallqvist, Tore. 1982. Gamla Stan I Ekenäs - Råd Och Riktlinjer För Byggnadsvård. Ekenäs: Ekenäs stad. P 10

tangible heritage, a loss of function for a significant part of the built heritage can be viewed as a threat to the life of the city. Loss of function is as important as loss of substance, since it often results in irrecoverable loss of character. The functionally obsolete buildings can no longer be maintained without significant alterations, unless they are preserved as museum pieces. In terms of alterations, today's standards in terms of energy efficiency, safety and comfort both for the interiors and exteriors can be accommodated by some of the historic structures only after significant changes and therefore loss of authentic substance. Like in other Nordic wooden towns, the outbuildings of Tammisaari risk disappearing since they are unused. Their traditional uses varied from annexes to the house, storerooms, and accommodated latrines or sometimes saunas, but they have gradually become redundant and began to disappear. The continuous maintenance and providing an appropriate function for the outbuildings still poses an issue for some properties. A management plan for Tammisaari could look at the possibilities for re-use of these outbuildings: whether their state of conservation and the lifestyle of the residents would support their use as saunas, small studios or garages. The tolerance for change in each case and for each building type can be discussed, balancing the opportunity cost of non-intervention and "museumification" with the alternatives.

Reverting buildings to some historic state which may or may not have ever existed is another problem noticed since the beginning in the process of maintaining the authenticity of the place. Even if historic parts were to be used from other historic buildings or from a bank of spare parts, reverting a building to a state that never existed, even if historic materials are used, cannot be authentic.

Since 1959 the conservation focus has fallen on the buildings' exterior with no concern for the interiors. The contrast between the outside historic fabric and the modern home interior is often too sharp. The historic continuity and its depiction in the facades, building exterior, public and private areas, interior courtyards and areas facing the public area, the inside and outside is often questionable.

The modernisation of the buildings often involve unnecessary changes, additions of disproportioned or awkward elements in relation to the historic buildings such as windows or doors on facades that used to be blind, after which valuable architectural details or entire facades are lost. Urban renewal and interventions in the historic fabric are also sometimes questionable, since sometimes good craftsmanship and adequate insertions are outvoted by worst solutions that may be cheaper or more efficient within a given plot. This however, lowers the quality of the cityscape.

In Tammisaari, one of the issues is the traditional owners and users of the town are changing, as new users are moving to the historical areas in search of the quality of the environment and general settings.[456] As these are not the traditional users, their flexibility and willingness to change the historic setting in order to accommodate modern conveniences is higher, while their resistance to the new standards and requirements is lower. The end result is that the new users of the site end up altering and diminishing the very qualities they sought when moving to the site, in an attempt to improve and modernize the living conditions. Paradoxically the environmental qualities that attracted people to the historic areas are the first to be lost after new building and development plans are implemented. Development of the historic area means for Tammisaari modernisation to the expense of historic accuracy and authenticity.

[456] Idem.p. 3

It is estimated that only a fifth of the historic town as it presented itself at the period of greatest expansion, has been kept.[457]

Tammisaari is a historic urban landscape where protection measures are directed, through the town plan, mainly at the historic tangible heritage, leaving without protection a number of essential traits of the place. The traditional community, the connection to the sea, the historic traits and atmosphere of the place need to be enhanced. The "*genius loci*" can be found mid-way between the value of the place as described by the professionals and the identity value together with emotional ties held by the users. As in Old Rauma, openness to the outside and the ability to integrate in a touristic route depend on the local residents as well as on the dynamism of the central, public functions.

In terms of maintaining traditional users and uses of the place, the economic measures, tax reliefs and incentives for continuous living on the property can be a solution. The difficult task for the conservation architect is that keeping the traditional users onsite affects directly the architectural heritage, but the tools and measures that need to be used are not within the architecture domain.

Maintaining the historic interiors and giving use to underused or unused buildings is not something that can be enforced, but rather stimulated. The vision for Tammisaari considers gentrification as a side-effect. Gentrification is seen as a natural expansion around the historic centre providing residential retreat opportunities for people otherwise living and working in Helsinki or Turku. This implies a change in the population structure. Since the site is being promoted as a quiet, convenient, comfortable retreat place, it is clear that changes are in order to sustain this lifestyle: modern fittings, equipment, performant systems will change the interior spaces. Alternatives should be presented to the users, as well as incentives that would persuade the owner to preserve those elements that cannot be covered by the law. Research can be carried out to pinpoint the needs, expectations and willingness to preserve existing value of the users.

4. Uusikaupunki

"The sea is the heart and soul of Uusikaupunki."(uusikaupunki.fi)

Uusikaupunki now: population and growth

Map 32: Town expansion. Image base map sources: Uusikaupunki city, Google Earth

So far, from the perspective of a Historic Urban Landscape, Uusikaupunki presents itself as a traditional historic town of wooden architecture, where nature and man-made organic

[457] Kiljo, Vesa; Tammisaaren museo - Länsi- Uudenmaan maakuntamuseo. 1996. Kuninkaan Kaupunki: Tammisaari 450 vuotta. p.15

structures[458] coexist and complement each-other. The traditional atmosphere and lifestyles have been and continue to be influenced by the dominant functions and industries in the area. Another component of this historic urban area is the current community, the users and keepers of heritage. Understanding the community can shed light on the sustainable future development in the area. The historic urban structure has been preserved along with a considerable number of the 19th century wooden buildings, especially around the city centre. The main contemporary functions today revolve around the town's dominating industries: car manufacturing and the automotive industry, fertilizer production and the chemical industry, metallurgy and fish processing.

Population[459] nowadays stands at 15.687 inhabitants recorded within the municipal area of 551 square km. Uusikaupunki is currently Finland's 75th city in terms of size. In terms of demographic changes[460], since 2006 there has been a decreasing trend. Overall the population of Uusikaupunki has been fairly constant until mid-20th century, maintaining around 4000 inhabitants in what is now the historic area. From 1960 to 1980, due to industrialization and its associated growth and population migration, the resident population of Uusikaupunki increased dramatically[461] to 4500 people in 1960, 9000 people in 1970, 14000 in 1980. This suggests a dramatic change in the industry, economy and overall activities of the town, but also an unprecedented housing pressure exerted on the historically stable urban fabric. The population and functional changes of the 1960s up to the 1990s affected and disrupted the historic layers. The most disrupting project was that of the mid-20th century, when after the war multi story office buildings were proposed and built in the middle of the historic town, to the expense of the existing historic buildings. In the 1960s the town mainly developed westwards: the Pietola residential area with multi story buildings and row housing solutions and Kukonmäki area with a multi-story group of buildings built within the historic area of the town. In the 1970s the developments were carried out with more consideration for the historic area: the Santio residential area, 2 kilometres to the north of the historic core, Sorvakko area to the south of the historic area and Hakametsä to the East. Subsequent projects were drawn in accord with the principles of the Nordic Wooden Towns Convention of 1972 and considering the value and the nature of the historic areas.[462]

The 1980s developments were placed almost as a continuation of the 1970s residential areas: Saarnisto, Palomettä and Ketunkalio in the North of the Historic area in connection to Santtio, Salmi area was built eastward of Hakametsä, while Ykskoivu was built to the South of Sorvakko. Developments and city growth was carried out around the historic area of Uusikaupunki. By 1993, Uusikaupunki, Pyhämaa[463], Lokalahti[464] and Kalanti merged in one municipality of 16 000 people[465]. The town is accessible by car, train and boat. There is a small guest harbour located in the middle of the town.

[458] Referring to the organic nature of wood as opposed to modern materials like steel and concrete.
[459] August 2012, Population Information System.Population Register Center of Finland. Retrieved 13 September 2012.
[460] Statistics documented and published by the city of Uusikaupunki, available online at http://uusikaupunki.fi/ last accessed March 2014)
[461] Information collected from online sources: The city of Uusikaupunki: http://uusikaupunki.fi/ and the Statistics Finland: http://tilastokeskus.fi/
[462] Mökkönen, Teemu. 2011. "Uusikaupunki-Nystad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/93/rho-uki-raportti-2001.pdf.
[463] merged in 1974
[464] merged in 1981
[465] recorded in the 2006 census.

The town's landmarks are at the core of the tourism industry. Amongst the main attractions nowadays is the automobile museum, the BONK centre and exhibition, the Old Church[466], Myllymäki Windmill Park[467] with its four historic windmills, Pyhämaa Old "Uhri" Church built in the beginning 17th century and significant for its decorative walls and painted wooden ceilings. Uusikaupunki is one of the few places where the historic windmills have been kept and protected as historic testimony, increasing the authenticity of the townscape.

Tourism in the area is also related to other types of activities, however, unrelated to the intangible values of the site: winter sports including ski jumping and skiing all year round at the Vahterus Ring, basketball, golf, and surfing and swimming. These are intangible elements valued as part of the contemporary city, and which contribute to the comfort and wellbeing within the urban environment. Crusell Week gathers tourists and professionals interested in the woodwind instruments. Uusikaupunki attracts around 30.000 tourists annually[468]. Overall, Uusikaupunki has been considered a small town even according to Finnish standards, with an urban population within the historic area of around 5000 inhabitants. This has been considered a strategic value of the city, and has been promoted as such emphasizing the authenticity of living in this small town.

Values, specificity, significance

Map 33. Values in Uusikapunki. Source. Elisa El Harouny:1998

In spite of the development pressures of the 1960s and 70s, the town's centre has been preserving part of its historic atmosphere and authenticity. Most changes brought to the urban

[466] The town's oldest structure finished in 1629. With 7 existing churches, Uusikaupunki can be considered a religious center, formed around the religious buildings: the stone church originating in the 14th century St Olaf's Church in Kalanti, the two churches from the 17th century, Uusikaupunki Vanhakirkko, and Uhrikirkko, the small wooden chapel from the early 17th century situated on the island of Putsaari, Lokalahti wooden Church from 1763, Pyhämaa new Church from 1804 next to the Old Church, Uusikaupunki New Church – a neo gothic church built in 1863.

[467] Myllymäenpuisto

[468] Figure approximated from reports on the year 2007. Kuosmanen, Johanna. 2008. "Matkailukohteiden kävijämäärät 2007". Helsinki. http://www.visitfinland.fi/wp-content/uploads/2013/04/E57-Matkailukohteiden-kävijämäärät2007.pdf.

layers can be felt further from the core, on the industrial outskirts - a common trait of Finland's historic towns. The historic urban structure has been preserved along with a considerable number of the 19th century wooden buildings, especially around the city centre, making Uusikaupunki's urban structure 'best preserved and most representative Empire Style wooden town'[469] , with around 40 perfectly preserved wooden blocks.

Although fragmented, the urban structure preserved is still very clearly readable. The fact that the buildings and insertions are clearly delineated according to the historic layer they belong to can be an advantage in terms of legibility and understanding of the place. Clearly delineated fragments are easier to read and therefore the development stages of the place are easier to understand. In Uusikaupunki, unlike other cities, historic retroversion and small 'soft' changes to the historic fabric have not been customary; the authenticity of individual structures has been maintained to a greater extent. Most historic properties are preserved intact both in terms of exterior materials, architecture and interiors reflecting the continuity and coherence of the preservation processes.

Unlike Old Rauma, where the car has never been part of the historic development or reality of the town, in Uusikaupunki the car producing industry is and has been an important layer of significance. The connections between vehicle and urban fabric, the traffic and overlapping of different networks are valuable traits of the place and should be taken into account in future preservation plans together with the importance of the automobile industry.

In terms of directions of development, Uusikaupunki is striving toward becoming a Carbon Neutral Town. Passive buildings, environmentally friendly measures and reducing the carbon footprint are amongst the top priorities of the town and community. Recycling, preserving and protecting the existing heritage are important components in achieving Carbon Neutrality.

Weaknesses

In terms of tangible components, Uusikaupunki presents itself as a broken, fragmented historic town, with insertions of the 1960s and 1970s made into the core of the historic fabric. Mainly multi-story and commercial buildings were added as layers of the 60s and 70s, and although the natural growth and change of the town is proof of the town's evolution and dynamic, the scale and architectural plastic of the insertions disrupt and assail the historic layers. The marketplace and the streets around it, mainly along the western part of Alinenkatu were most affected by the changes, although the expansion of the multi-story building area had been stopped before reaching the historic market.[470]

In terms of local significance, aside from the street structure and urban vegetation, the typology of the courtyards and the occasional brick buildings are present in the town's cityscape. Although the coherence and continuity of architecture, scale and styles had been broken by the 1970s insertions, the layering and structure of the historic town remained legible[471].

The fragmented reality cannot be changed, but the management plans could look at alternatives for mitigating contrasts in fringe areas in order to better control the hierarchy

[469] Mökkönen, Teemu. 2011. "Uusikaupunki-Nystad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/93/rho-uki-raportti-2001.pdf.
[470] El Harouny, Elisa, Olli-Pekka Riipinen, Kaija Santaholma, and Timo Tuomi. 1996. Suomalaisia Puukaupunkeja Finnish Wooden Towns Hoito, Kaaavoitus Ja Suojelu. Tammisaari. Ympäristöministeriö/Alueidenkäytön osasto. p.23
[471] Mökkönen, Teemu. 2011. "Uusikaupunki-Nystad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/93/rho-uki-raportti-2001.pdf.

between elements of contrast. In Finland's historic towns, elements of contrast are generally disruptive and seem random within the urban space. The church is, like in most cases in Finland, a dominant building placed on the tallest hill, usually on bedrock, while the market is the open-area, lowest point of the town – the negative volumetric impact with a similar functional strength. Buildings in-between are subordinated to this hierarchy unless they are representative centres structuring the urban fabric around them and making an architectural and functional statement, like the city hall. In Uusikapunki this type of hierarchy can still be read, since volumetrically most buildings were integrated in the landscape through the town plan. In addition to the town plans, the management plans can look at the spaces of disruption, where out of scale buildings[472] are randomly inserted in an otherwise coherent urban structure, without any functional or urban support, and could offer solutions by changing their relation to the existing.

Another problem of the conservation practice in Uusikaupunki refers to the authenticity of the building's components. Programs encouraging improving the energy class of the windows and glass used in construction were implemented in Uusikaupunki allowing the replacement of the historic windows and doors with more efficient modern solutions. Loss of the authenticity in these facade elements, as well as the replacement of entire facades led to the downgrading of the historic buildings to a lower status - 1 B. After 1945 only 7% of the building stock was considered valuable and authentic enough to be placed in the highest preservation class[473]. The National Board of Antiquities formulated protection formulas for the historic centre of Uusikaupunki starting from 1974[474], however, many of the conservation ideas, methodologies and principles had evolved since then, and the importance of the context and legibility of the historic significance of the area began surpassing the individual value of buildings. Nowadays it is estimated that fewer than 40% of the historic buildings have preserved their significance and are worth preserving.[475]

In Uusikaupunki, as opposed to Old Rauma, the residents welcomed the idea of the new, improved apartment solutions promoted in the mid '70s, regarding this solution as an improvement brought to the living conditions found in the traditional housing.[476] This reflects on the one hand that the existing buildings did not provide their inhabitants with appropriate living conditions -in the 1970s the historic layer could no longer support the requirements of the new lifestyles- and on the other hand the lower maintenance standards as well as lower level of attachment of the local community to the historic buildings.

The new additions in terms of residential architecture attempted to follow the aesthetic, scale and materials of the historic town, but the result had form without content. The prefabricated wooden structures of the new houses, using different wood building techniques and materials, introducing new materials, engineered wood products such as plywood and MDF, had a destructive impact on the overall value and image of the historic town.[477] The most visible and disturbing problem is the insertion's lack of integration within the historic layers.

One of the most comprehensive town plans was developed in 1983 and includes measures for the protection of the historic layers with an impact on the contemporary town plans and development strategies. The 22 page report addresses conservation issues mainly related to

[472] Both in terms of height and mass
[473] Mökkönen, Teemu. 2011. "Uusikaupunki-Nystad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/93/rho-uki-raportti-2001.pdf.
[474] Ibid.
[475] Ibid.
[476] El Harouny, Elisa, Olli-Pekka Riipinen, Kaija Santaholma, and Timo Tuomi. 1996. Suomalaisia Puukaupunkeja Finnish Wooden Towns Hoito, Kaaavoitus Ja Suojelu. Tammisaari. Ympäristöministeriö/Alueidenkäytön osasto, p.24.
[477] Idem p.34

the outer shell of the building: facades, roofs, window detailing, materials and colours, but also describes the renovation of ceilings, interior walls, interiors, foundations, in order to maintain the buildings' authenticity.

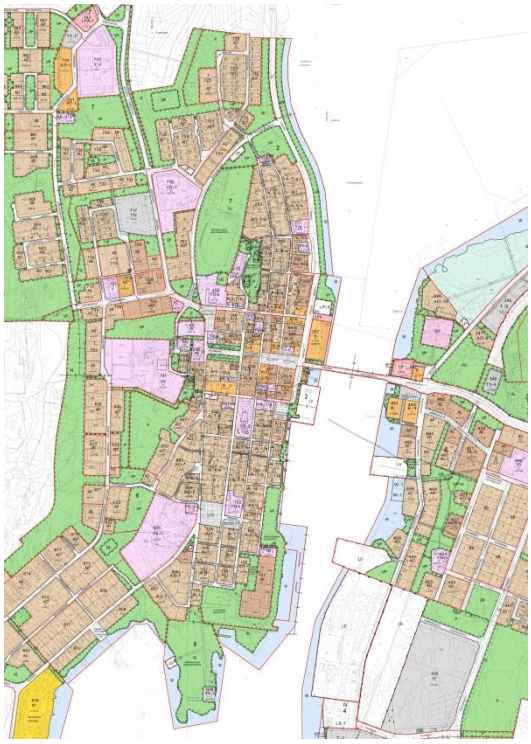
For Uusikaupunki maintaining a coherence of the remaining historic layers is not as problematic as maintaining an active lively community. Population in the region is shrinking, and hope is placed on revitalizing tourism in the area. Tourists and the seasonal income they generate cannot revitalize a historic urban landscape where the traditional community is disappearing. The Management plan in this case could consider the scenarios for development aimed at maintaining the local residents and attracting a population that would integrate in the place. The needs of the local residents should be considered first most, whether they relate to housing issues, costs of properties or maintenance, job opportunities. It is clear that attracting investments and bringing new businesses would revitalize the entire area, but ideas for development and suitability of various investments should consider the "*genius loci*", the compatibility with the place.

The management plan for Uusikaupunki, just like in all the other cases analysed so far, could deal with the issue defining Uusikapunki as a historic urban landscape, and integrating and protecting a historic area within the contemporary, dynamic city without "museifing" or further fragmenting the town. The community in this case is shrinking mainly because of population migration, while population aging is not at the forefront of the possible threats. So far the vision for development is focused on a touristic place, attractive through its cultural heritage and natural resources. However, the needs of the local community could be analysed in depth, focusing not so much on what the place has to offer, but on what would enable the users to better protect and conserve their environment.

5. Kristiinankaupunki

The case of Kristiinankaupunki viewed as a Historic Urban Landscape is interesting especially from the perspective of the interactions between tangible and intangible components. It shares many of the common traits of Finland's historic wooden towns, but in relation to the selected study cases it shows the most the effects of population decrease and urban shrinkage. It is interesting to look at the solutions proposed to counter this shrinking tendency and the accelerated changes occurring in the city centre. As in most other cases in Finland, architectural and urban conservation are dealt with separately in the town plans, usually uncorrelated to any other studies or analyses. Corroboration in research from different fields is made only when the connections are obvious between different fields, in a non-integrative manner. Kristiinankaupunki's heritage issues are linked to the social and economic dimensions of the site, and as such they require a multidisciplinary, integrated approach. As such, an aggregated management plan could help in establishing connections between interlinked components of the H.U.L., which have been analysed separately so far: issues of the local community, economic problems, underuse of local resources and potential business opportunities. From an architectural and urban point of view, specificity, as always, is intrinsically linked to the place's history and evolution and indirectly to the intangibles and local community.

Kristiinankaupunki now. Town plans and protection plans



Map 34. 2013 Kristiinankaupunki town plan.Source: courtesy of the Kristiinankaupunki technical centre

After 1857, with the introduction of the steam-powered boats and cargo carriers, the affluence started moving southwards, to cities with better connections and showing more investment opportunities. The towns of Ostrobothnia, including Kristiinankaupunki, regressed to their initial agricultural practices and entered a period of steady decline which carries on to this day.[478]

In 1973 Kristiinankaupunki, Siipyy, Tiukka and Lapväärtti merged into a bigger municipality, one of the biggest in Finland. Tourism increased steadily, especially due the summer fair which brings more than 50.000 visitors alone[479]. This is why more than 63% of the city's activities are related to travel and services.

The town has a compact grid, and can be inscribed as a "full rectangle"[480] with straightened shoreline according to the 1650, 1651 and 1652 plans. It is the best preserved wooden town because all of its constituting layers are present in the town. The western customs house, built in 1720, although moved throughout its existence, can be found on its original position next to the old church. The 1680 Eastern customs house has also maintained its original position.[481]

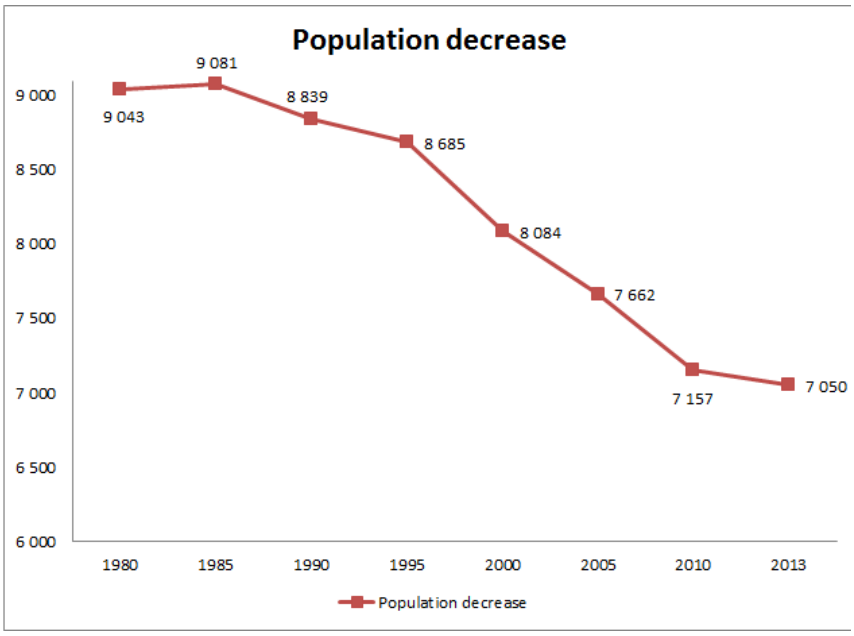


Figure 17. Population decrease between 1980 and 2013 in Kristiinankaupunki, associated with urban shrinkage.

In 2013 the population count for Kristiinankaupunki

[478] Ibid.
[479] www.kristiinankaupunki.fi Corroborated with Kuosmanen, Johanna. 2008. "Matkailukohteiden kävijämäärät 2007". Helsinki. http://www.visitfinland.fi/wp-content/uploads/2013/04/E57-Matkailukohteiden-kävijämäärät2007.pdf.
[480] Kirjakka 1996:43
[481] Mökkönen, Teemu. 2001. "Kristiinankaupunki – Kristinestad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/90/rho-kristiinank-raportti-2001.pdf.

was 7050 people, of which 56% Swedish speaking. There has been recorded a decrease in population since 1980 as shown in Figure 17. Population decrease between 1980 and 2013 in Kristiinankaupunki, associated with urban shrinkage.Following this scenario, urban shrinkage is a significant threat for the city.

The 1800s were the golden years of the city, based on goods trade from and to the harbour. The city's connection to its environment, the sea and its seafaring past is maintained by two leisure ports. The functional continuity is also being maintained. The marketplace is the urban place that changed the most, with eight of its eleven buildings replaced and built after 1970s, in spite of the protection plans drawn in the same period[482]. Accompanying the 1981 protection plan, the inventory of historic valuable wooden buildings numbered only 66 buildings and 19 outbuildings worth preserving. The fragmented approach to the town protection risked destroying the atmosphere and coherence of the historic town, although claiming to focus on protecting the architectural heritage as a whole. This implemented protection policy shows that the protection of selected architectural heritage cannot ensure and is not sufficient for maintaining the authenticity and significance of a place such as a living historic town. The situation was improved after the 1993 inventory, when it was stated[483] that the cityscape, street protection and generally a more holistic protection system for all the components of a historic area are needed. Inner courtyards and other elements that didn't belong to the public area were considered valuable for the authenticity of the place.

Overall between 1967 and 1981 about 100 of the 800 historic buildings of Kristiinankaupunki were lost, 50 of them from the central area around the market square[484]. After the 1981 protection plan the replacement rate of the wooden historic structures dropped, as the value of heritage became more evident for the residents. It was one of the clear signs pointing out that understanding of local values by the users and acknowledging local heritage as a whole can improve the efficiency of protection and conservation plans. However, because of the economic pressures especially in the central business area of the town, the demolition and building renewal around the Market Square continued. Exteriors pressure and investments proposed by developers and local businesses focused on immediate profit cannot be balanced by the attitude of the community. An additional 15% of the building stock, a total of around 20 buildings, was lost after the 1981 protection plans.[485]

Urban shrinkage is most visible in Kristiinankaupunki: the abandonment of some properties coupled with a constant decrease in population while maintaining a growing trend in construction and development in the area is especially threatening for the existing heritage.

Partly to counteract the accelerated changes that threatened the historic layers of the town and contributed to the urban shrinkage of the city's outskirts, Kristiinankaupunki was declared in 2011 a slow city- Cittaslow. It is the first slow city in Finland, following the concept in terms of development objectives, vision and mission of the city sharing 50 goals and principles which every Cittaslow city strives to achieve[486]. The Cittaslow town movement started in 1999, and was defined in the Cittaslow Charter[487]. It focuses on urban regeneration and re-use, focusing

[482] El Harouny, Elisa, Olli-Pekka Riipinen, Kaija Santaholma, and Timo Tuomi. 1996. Suomalaisia Puukaupunkeja Finnish Wooden Towns Hoito, Kaaavoitus Ja Suojelu. Tammisaari. Ympäristöministeriö/Alueidenkäytön osasto.
[483] Koivula, Jukka. 1999. "Kristiinankaupunki - Rakennustapaohjeisto". Kristiinankaupunki kaupunki.
[484] www.kristiinankaupunki.fi and Mökkönen, Teemu. 2001. "Kristiinankaupunki – Kristinestad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/90/rho-kristiinank-raportti-2001.pdf.
[485] Idem.
[486] http://www.cittaslow.org.uk/about-us/goals/ accessed March 2014
[487] Available at http://www.cittaslowperth.org/the-cittaslow-charter.html last accessed March 2014

on distinctiveness. Maintaining the vitality of the community, enhancing the public spaces and activities is at the forefront of the movement, while history, tradition and the needs of the local community are the main factors triggering intervention in the area and defining the "distinctiveness". Products, especially food and drinks as well as other intangible components or values of the town are enforced in a sustainable manner.

What makes Cittaslow different from most other strategies and concepts used today is that it implies that generating value takes time. The two concepts: value and time, are proportional and interdependent. Therefore existing values must be conserved and protected as we don't have the time resource to truly recreate lost values, while valuable development and production should be given the time needed to create value. The quality of life can be improved, according to this concept, by allowing enough time to create value. Cittaslow introduces an additional dimension to the traditional approach to urban conservation, but does not contradict the international approach. Aside from providing a potential answer to the historic phenomenon of urban shrinkage, Cittaslow ideology encourages an authentic display of all historic periods and layers, maintaining and exhibiting the strong identity linked to the maritime history as well as the strong connection with the sea which is overwhelmingly visible today, supports repair rather than replace for all historic materials thus preserving authenticity in substance.

For Kristiinankaupunki the movement promotes mainly a different lifestyle, and a different relation to change, which will and should take time. In terms of architecture it is acceptable for the creation and building process to take a long time. In conservation and preservation, adding the time element might suggest that it is advisable for experiencing and understanding the layers of significance to take time: a slow town requires careful consideration to appreciate its intricacies. Significance results from the sedimentation of values and characteristics in time, while the "*genius loci*" is expressed and can be understood only through exploring the place in time.

Looking at Kristiinankaupunki's development and changes since the 19th century, one would be tempted to associate the preservation of the town with its slow development. In this sense part of the slow city ideology had been adopted in Kristiinankaupunki even before the official recognition of the movement. The vision of the city and marketing strategy are visible on the fabric of the city. A slow growing, sustainable city is one of the convenient sustainable ways an urban community can oppose urban shrinkage. However slow development should be coupled with social programs and community oriented projects aimed at revitalizing the social environment. Industrialization in this town has not been as accelerated and dramatic as in other towns of Finland, although it has had its share of hazards amongst which soil contamination problems linked to industrial processes of 1970s and 1980s.

Values, specificity, significance

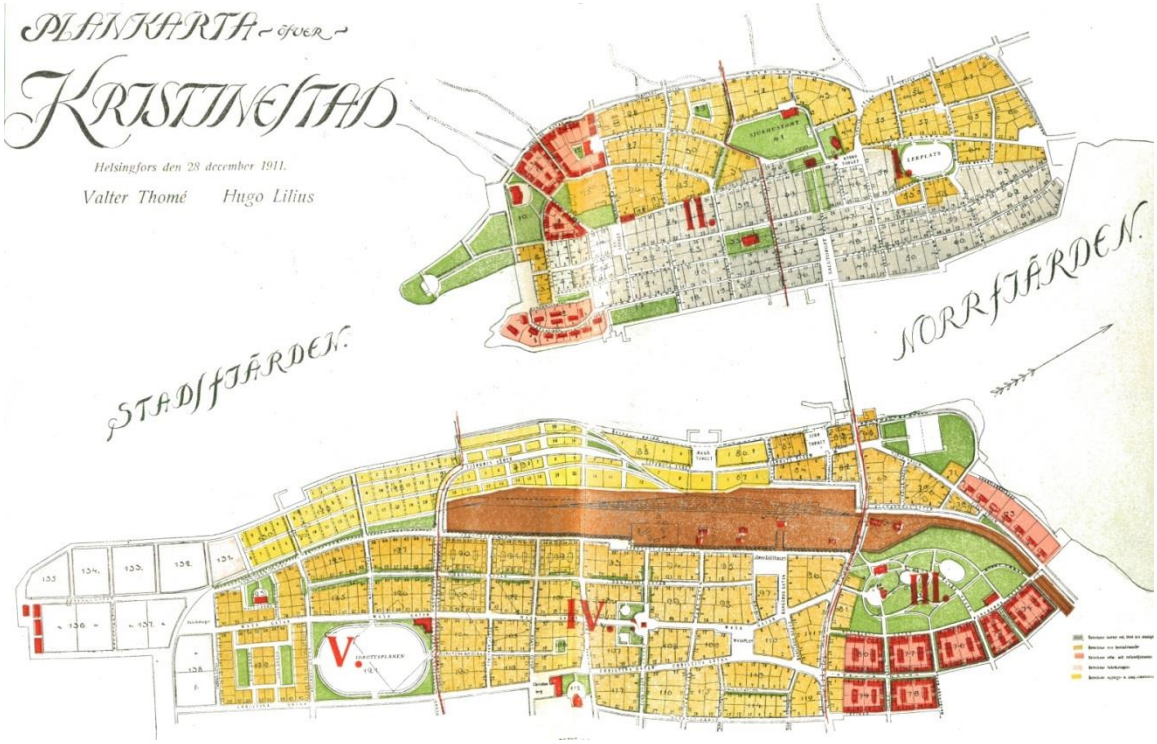
The original town plat of 1651, which started with 6 blocks, is still distinguishable from the rest of the town, as generally most of the urban structure is preserved[488].

Most historic buildings are from the 1800s, beginning of the 19th century, only a few are preserved from the 1700s. Fire did not ravage Kristiinankaupunki which is perhaps why it remained to this day "the best preserved wooden town". Its preservation was ensured also

[488] Koivula, Jukka. 1999. "Kristiinankaupunki - Rakennustapaohjeisto". Kristiinankaupunki kaupunki.

because major rebuilding plans or replacements of entire historic layers were never needed. Most of the town developed naturally until the 20th century when the commercial and business areas were inserted into the existent. The problem with the 20th century buildings in Kristiinankaupunki is that they were mainly replacements rather than additions. Instead of building up on the existing and accumulating values by adding a historic layer, it was chosen to replace and completely discard elements from the historic layers to make room for new ones.[489]

The large number of unused buildings is a source of threats but also potential benefits since they retain their historic characteristics and at the same time they could accommodate new functions needed such as small stores or workshops.



Map 35. 1911 Town plan Kristiinankaupunki. Source: http://koti.kapsi.fi/

The mills have always been differentiating and specific elements of Kristiinankaupunki's townscape. In 1740 there were 17 windmills to the north and south of the city centre, which were also represented in the 1745 city plan. However, up until 1937 most of them had disappeared, leaving only a few of them on the upper areas as historic evidence. The waterfront small storehouses and outbuildings, aligned along the shores and beaches of the town, had also been representative for the town's image and evolution. Although specific for the town's development and representative elements in the historic stratification, they were deemed un-stately and disruptive for the views to and from the sea in the 18th century. Although at some point Kristiinankaupunki's outbuildings might have resembled Porvoo's - which were characteristic for its river front- they were gradually replaced by storage warehouses in the East starting with the 1770s. The uniformity and scale of the warehouses were thought to be more monumental than

[489] Mökkönen, Teemu. 2001. "Kristiinankaupunki – Kristinestad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/90/rho-kristiinank-raportti-2001.pdf.

the small-scaled storage structures. Only some of these buildings making out the continuous waterfront remain standing today.[490]

Strong points and weak points

The two main functional landmarks of the town are the church and the town hall, the vertical markers of the townscape. They have maintained their position and historic importance in the town and city, and as such their preservation as dominants is important for the identity of the place. The town has been overall spared from fires, so the material authenticity of the place is preserved to a great extent. Even some of the unique structures such as the windmills and town wells have been maintained, providing a unique testimony of how the town functioned and developed.

An element of specificity or distinctiveness of the city that stands out is the manner of access. The access has been made over a bridge that separates the old town from its wider context, the old layers from the new, and the urban from the natural. Water acts for Kristiinankaupunki as a barrier delimitating the historic area.

The hierarchies established in the city are quite clear, starting from the main market found after crossing the bridge. Here, and adjacent to the open space, are placed the most prominent buildings, with the richest decoration and biggest in size. The size and level of decoration decrease toward the edges of the town. The development of the town in its golden era rested on trading and shipbuilding, both major activities leaving traces on the structure and architecture of the town visible to this day[491]. The relationship between the beach structures, the main town square and the adjacent public buildings is clearly expressed and experienced by the user. The commercial core of the town -the main square- had remained on the same position and has the same importance as it initially held, although the architecture of the surrounding buildings has changed.

The historic houses bear the marks of all developments, and often multiple historic layers are legible on a property. Some of the buildings themselves are a result of slow development and changes throughout the ages. The original state for these buildings is less important than their transformation and becoming. Conflicts in terms of structure, facades, and styles are relevant and significant in their case and more valuable than the harmony and coherence that could be achieved through reversions.

[490] Mökkönen, Teemu. 2001. "Kristiinankaupunki – Kristinestad Kaupunkiarkeologinen Inventointi." http://www.nba.fi/fi/File/90/rho-kristiinank-raportti-2001.pdf.
[491] El Harouny, Elisa, Olli-Pekka Riipinen, Kaija Santaholma, and Timo Tuomi. 1996. Suomalaisia Puukaupunkeja Finnish Wooden Towns Hoito, Kaaavoitus Ja Suojelu. Tammisaari. Ympäristöministeriö/Alueidenkäytön osasto.

Image 30. Maintenance work on wooden components, historic church gate tower, showing different layers of the façade. Picture by Anca Dumitrescu 2012

In Kristiinankaupunki as well as in other Finnish towns, there are major differences between the strategies of preservation and development and what is actually implemented. Although Cittaslow focuses on the character of the place, local communities, preservation of existing values and slow development, in the local town plan from 2007 it is specified that several industrial areas, to the south of the historic area are going to be transformed into residential areas. The 80 construction sites were not provided with any service functions, as they will depend on the services existent in the city centre. The permitted height of 1, 1.5 floor coupled with the beach plots extended to the shore suggests a primary function as vacation houses, which could attract population and boost the investments in the town. Just like in Uusikaupunki, focusing on the seasonal user and external investment from vacationers is not the best way to empower local communities. The only options presented referred to the layout of the functional area.

In terms of community development and protection of heritage, the question that arises is what would be the impact of this decision. According to a 2012 report[492] Kristiinankaupunki's population declining, expecting a further 11,60 % decrease in population between 2010 and 2030. It is also expected the percentage of elderly aged over 75 years old will increase from 13,6% of the population in 2010 to 25,8% in 2030, while the birth rates will continue to decrease. Between 2008 and 2010 there were less than 50 children under 1 year old recorded in the city. Corroborating this data with the urban shrinkage in the historic area, increasing number of underused historic buildings, shrinkage of traditional activities and tourism over the past decade, it is questionable whether residential development projects will be sustainable solutions for future development and whether it will support the preservation of the existing heritage.

[492] Markku Mölläri. Kuntarakenne-esitys Pohjanmaalla: Kunnallishallinnon rakenne –työryhmän 2.sihteeri. 23.2.2012 available at http://www.kristiinankaupunki.fi/medialibrary/data/03_Rakenneryhmaen_puheenvuoro_Pohjanmaa_230212-%7Bxdwgy-eimfp-bmqkb%7D.pdf

In terms of displacements, and shifts of the economic, commercial or other functional centres, Kristiinankaupunki is the most stable and unchanging town from 4 analysed study cases. No major changes have been recorded to the urban fabric in its entire history of transformation. The effects of the land uplift started to be felt in the 1800s, but they triggered no significant changes aside from the reorganization of the sea banks. The importance of the connection to the sea has been stressed from the beginnings of the town, as the inhabitants have always wanted to stay as close as possible to the shore. This tendency can be read in the structure of the town, following longitudinally the shoreline.

Image 31. Urban shrinkage: abandoned properties. Picture by Anca Dumitrescu 2012

Amongst the weaknesses and threats, urban shrinkage is most obvious. Many of the wooden buildings that are abandoned or in poor condition are a direct result of the shrinkage of the community. Abandonment is almost always associated -or generates- with the decay of the wooden buildings. Another problem of the town that can also be associated to urban shrinkage is the lack of vibrant urban life and urban public spaces. The zoning and protection plans for different areas are of concern, since the protection plans originate and are based on analysis carried out in the 1970s[493]. It has been estimated[494] that 44% of the buildings stock, mainly buildings pre 1945, should be protected or integrated in protection areas. Guidelines for the users and general public with regard to traditional building methods, details, materials, layouts and structural components are still not made widely available. Individual analysis of the properties is lacking, and this may encourage modifications or additions that would lower the authenticity and value of the property.

Parking and traffic has been another issue for the town[495], a problem which will only increase if the tourism activities will increase. As an urban disruption, the parking area in the

[493] the 1967 town plan and inventories. At the time only 14 buildings were protected. In 1981 another building inventory was carried out, again 14 buildings or 10% of the building fabric, were considered valuable enough to be protected.
[494] El Harouny, Elisa, Olli-Pekka Riipinen, Kaija Santaholma, and Timo Tuomi. 1996. Suomalaisia Puukaupunkeja Finnish Wooden Towns Hoito, Kaaavoitus Ja Suojelu. Tammisaari. Ympäristöministeriö/Alueidenkäytön osasto p.25
[495] Kristinestad. Riktlinjer för byggnadsvård. Kristinestad 1999. p.15

centre of the square, although functional, diminishes the quality of the experience of the historic area.

Fences, gates and access areas to historic plots have been modified to accommodate the resident's parking needs. A plan for efficient and non-disruptive parking areas for both residents as well as visitors should be made.

In Kristiinankaupunki the impact of the cumulative 'small changes' can be felt where the house entrance area, fences, gates, courtyards, windows and facade boarding are perceived as being 'newer' than they actually are. The street cover, traffic signs, advertisements, electricity and illumination systems, cables and modern urban fittings are also hindering the understanding and experience of the historic area. Old Rauma could serve as a model in terms of handling the street pavement and the street sign use.

Maintaining the character of the wooden town depends on the prevalence of wood over all the other materials in the town. As such, the replacements of the 1960s up to the 1980s are disruptive. The choice between expressing the truthful changes of the 70s and 80s, and maintaining the wooden character of the town is a difficult one and should consider the condition of the house, quality of the modernist materials, and relevance of the building for the town's stratigraphy. In most cases the insertion was a cheap, fast building option that responded to a temporary need, and therefore its replacement with a more coherent and better integrated object can be considered.

Amongst the study cases, Kristiinankaupunki is situated furthest away from Helsinki, and it is the least touristic place of the four. Connectivity might be considered as an indicator in establishing touristic attractiveness. The dissolution of the traditional communities as well as the unused buildings reach the highest levels in this case, suggesting that there is a strong connection between the cohesion of the local community, the liveliness of the town and ultimately its success in terms of urban development. Here, like in most cases in Finland, the Historic Urban Landscape is protected looking mainly at the tangible components isolated from any intangibles.

Conclusion

All of the study cases are historic towns –Historic Urban Landscapes, mainly built of wood, all of them in close relation to the natural environment around them. All of them have had issues with fire-related destruction affecting the tangible heritage, and all of them are currently faced with the aging of the traditional population and the possible gentrification process brought by the new home owners. Land uplift has changed the face and relation between urban environment and nature in most of these cases. The historic tangible architecture is affected mainly by underuse or unused, while the built environment as a whole is affected by new development and changes of the authentic atmosphere of the place. The most notable deterioration of the quality of the historic space and tangibles can be noted around the edges of the defined historic areas. A duality between the historic environment and the new, industrial, post-industrial and contemporary areas –the city, can be felt in all of the presented cases and all throughout Finland. A future management plan would need to address all of these issues. The negotiation and transition between the historic centres and the more recent urban layers is another issue common for all of the study cases, as the idea of a buffer zone or area of impact for the historic area is not considered. For Old Rauma the "buffer zone" is a formally delineated area, while for the rest of the study cases it does not exist altogether. The natural environment, the parks and green areas are underused as transitional spaces in all of the analysed cases.

Old Rauma, as a World Heritage Site is most compliant with the requirements in conservation imposed by the international community, while the rest of the towns benefit from protection for the existing heritage, mainly through the town plans. It is a system that proved efficient given the pragmatic mentality of the Finnish society: repair what is broken, don't fix what isn't broken, and make improvements only when needed and if allowed. The use value had prevailed over most other values historically, while a top to bottom urban approach and rigor ensured a unified outlook of the towns.

In the context of the present research it is notable that none of the analysed study cases are being viewed in their complexity as historic urban landscapes. Generally the tangible and intangible values of the site remain dissociated both in analysis as well as in protection policies and measures. The historic area is judged mainly considering the historic relevance and age, while the significance of the place is viewed as being a resultant. This creates contradictions and difficulties in establishing a buffer zone or an adequate area for protection. Views to and from the site are generally not considered, just like the means of approaching the site and ultimately understanding of the site. Communication between stakeholders is generally a problem because of the limited integration between the different tangible and **intangible** components of H.U.L. These problems cannot be solved by forced measures imposed on the stakeholders, but they may be solved through the proper definition and understanding of the site in its multidisciplinary complexity.

The built environment survived the building pressures and technical revolutions of the "modernization era", with the wooden architecture often challenged in terms of efficiency, safety, stateliness. However, the rise of the Information Age poses mainly the problem of social and mentality transformations. The new users require more technical adapted houses, more efficient systems, have a different lifestyle and expectations that the traditional communities that are slowly shrinking. The Historic Urban Landscape looks at the delicate connection between users and heritage, between intangibles, lifestyles, atmosphere and the tangible architecture, declaring that only through preservation of communities can a sustainable maintenance of the whole heritage be obtained. Finland is one of the most developed countries in terms of digital technologies, placed at the forefront of the digital revolution. However, the conservation tools currently employed in the conservation and preservation process are not designed to consider Historic Urban Landscapes in their entirety, focusing too much on the tangible values and insufficiently on the underlying intangibles. It generally risks becoming a system in which forms without substance are being conserved for the sake of keeping intact historical and aesthetical values, with little or no connection to the communities that use them. Material fetishism and nostalgia can help retain the historical authentic substance, but most of the other traits of the "*genius loci*" and authenticity will be affected. An efficient and inclusive management plan would have to include all aspects relevant for a Historic Urban Landscape; it would need to bring together the tangible and the intangible traits and analyse them in a comprehensive manner.

In all of the study cases aside from Old Rauma, the knowledge and tradition of working with wood has declined among the townsfolk, and therefore the people that are able and willing to maintain and repair the wooden heritage often lack the skills and knowledge to do so. Wood related problems: moisture and water infiltration problems leading to decay and rot are often treated with modern materials which do not perform well together with the historic materials. Home improvements in terms of insulation and energy efficient systems work against the ventilation of the wooden structures, generating chain decay reactions. On the other hand in

some cases excessive renovations have also reduced the material authenticity of the buildings and reduced the area's value –this is happening all throughout Finland's historic towns. Often owners prefer massive intrusive renovation projects carried out over a relatively shorter time interval to constantly maintaining the historic substance. Management would have to consider keeping the traditions and traditional working techniques alive, as well as maintaining the necessary resources available for those working with the site[496].

The foundation of the wooden buildings has been made historically either from natural stone with mortar or dry stone, in either case the wood was placed above ground level, above a ventilated space. 20th century house optimizations in some cases included permanently closing these ventilated spaces and covering the base with cement based mortars, aiming at a better water insulation of the foundations. However, this measure leads to the decay of the wooden structure, floors and bottom walls as well as provides adequate environment for the growth and propagation of mould and fungi spores. Maintaining the original materials, or in the least the same material category as the originals for the historic structure is very important for the conservation of historic substance. Concrete as a general rule is not an appropriate material to be used in connection with historic wood, or for repairs brought to the base. There are cases, in Finland as well as in Norway and Sweden, when concrete stairs have been used to either replace the decayed wooden ones, or have been added altogether. Aside from the obvious conflict in material association between wood and concrete, there is the issue of the contrast between the two materials from the perception point of view.

In terms of tourism, it is clear that most historic towns focus on attracting revenues from the tourism industry. However, there is a distressing tendency to focus on enhancing tourism in those places where the local communities are shrinking and losing their vitality. Old Rauma as opposed to Uusikaupunki focuses more on the quality of urban life rather than on providing touristic attractions. Understanding H.U.Ls is very much dependent on the local communities and their authenticity fades once the residents disappear. European precedents such as Venice are proof that conservation alone cannot save the authenticity and values of a city. Social aspects, as well as tourism management should be included in the Management Plans of Finland's historic towns, bringing together architecture within its urban context with its users.

A new tool needs to be developed and used to stress the significant aspects and the complex network of elements contributing to the significance and value of a place. Informing the users of the resources, the benefits and the risk faced by the community and the place can change the attitude toward conservation. Empowering communities to protect their environment, while ensuring supervision of the process can prove more effective and efficient than enforcing rigid rules, while financial incentives can also work as sanctions. A tax deduction can be regarded as an incentive for the user that maintains a historic property, or as a sanction by the user that does not receive it due to improper maintenance. In this sense, the supervision and feed-back of the implemented protection plans is essential as well as constant interaction to the stakeholders involved.

[496] Like the Old Rauma's bank of spare parts.

	Old Porvoo	Old Rauma	Tammisaari	Kristiinankaupunki	Uusikaupunki
+	Intangibles Crafts Functional diversity Integrity Authenticity	Integrity Authenticity in atmosphere, materials especially exteriors and structural Intangibles	Readable historic urban layers; Authenticity and integrity of some tangible cultural elements, especially exteriors	Spared by fires. Urban coherence and authenticity. Unique elements were maintained. Urban hierarchies	Authentic atmosphere Readable historic layers Cars and traffic naturally integrate in the historic urban landscape
-	Museumification Development pressure especially from tourism	Museumification Development pressures Traffic Communication between various stakeholders Connectivity with the surrounding urban environment. Land uplift and changes in hierarchies.	Little consideration to intangibles Authenticity of interiors Traditional functions are disappearing Gentrification	Small cumulative changes with great impact Weak protection of tangibles Local community not empowered Population decline Urban shrinkage Under-used heritage buildings Little consideration to intangibles	Fragmented urban structure Lack of clear urban hierarchy due to late 20th century additions Non-authentic building components especially in facades. Population decline Little consideration to intangibles or local community.

Table 2. Strengths, weaknesses and threats in Old Porvoo, Old Rauma, Kristiinankaupunki, Tammisaari and Uusikaupunki

CHAPTER 5: THE AGGREGATED MANAGEMENT PLAN FOR H.U.L.

In chapter one the definition of the general concepts employed by management plans today has been made, striving to pinpoint their origin and general evolution. The present chapter is dedicated to understanding and defining the Management Plan from a contemporary perspective, as a potential tool for controlling change in historic urban areas.

When debating the origin, purpose and development of the management plans, one must discuss the importance of urban heritage and its acknowledgement. As it has been stated in chapter 1, the monument and the significant have been maintained and protected in the history of the humanity by those who valued them, their preservation and maintenance being a natural resultant of the desire to keep that which is meaningful and valuable. Rarity or scarcity is an economic indicator correlating availability of a resource to its overall value. In heritage conservation the concept applies similarly, relating the value of a property with its rarity, uniqueness or risk. In other words, the most likely we are to lose a relatively unique piece of heritage, the more valuable it becomes. Until the Second World War the value of heritage cities or towns was considered somewhat implicit, and although the notion of "the old area" or "old town" had some implicit characteristics, limited research or literature was published on the topic. After the irreversible destruction of several heritage towns across the world during the Second World War, the newly established international organizations acknowledged the value of the heritage town and the importance of its sustainable development. This is to say that the city, its development, improvement and maintenance has been an integral part of human existence, reflecting the values and nature of the cultures and civilizations that created them. However, its understanding and handling as a unique heritage resource is an attitude of the 20th century. The process of properly maintaining and characterising this complex resource is therefore constantly refined and improved, in an attempt to satisfy both the universal and international requirements as well as to reflect the local specificity and "*genius loci*".

The United Nations Educational, Scientific and Cultural Organization formed in 1946, took on the task of addressing the issue of heritage in an inclusive, international manner starting with the 1972 Convention concerning the Protection of the World Cultural and Natural Heritage. The year 1972 was the turning point for modern conservation and heritage studies. The first Operational Guide for the protection of heritage in general and which, amongst others, coined the most relevant international concepts pertaining to heritage and its characteristics, was published in 1977. It has been constantly improving ever since.

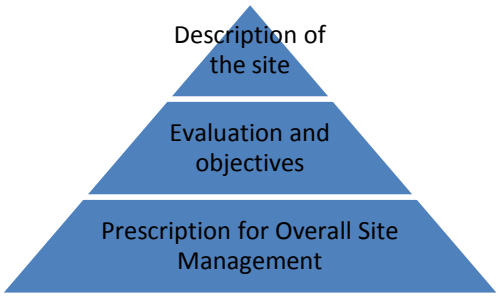


Figure 18. Recommended format of the management plan. Source: Feilden, Bernard. Jokilehto, Jukka. Management guidelines for World Cultural Heritage Sites. ICCROM. Rome 1993. P.38

Ever since the Council of Europe's Charter of the Architectural Heritage in 1975, when the concept *of "integrated conservation"* was first introduced, there have been projects aiming at defining the best tool to address the integrated conservation of historic towns. The Granada Convention for the Protection of the Architectural Heritage of Europe in 1985 further emphasised

the importance of integrated conservation.

The Management Guidelines for World Cultural Heritage Sites[497] published in 1993, with subsequent editions in 1998, 2005, elaborates the principles and components of a holistic management plan stressing the importance of the operational format of the plan. The guidelines were considered a working tool, and highlighted some of the differences between managing a site and a historic town. It is one of the most comprehensible and complete documents addressing conservation and site management in a truly holistic, multidisciplinary and international way. It is structured in three main chapters, each covering a wide range of concepts and components. The first part of the management plan contains the description of the site: general information, cultural information, environmental information, documented interests. It is an objective, quantifiable part of the management plan, scientific in nature and easily verifiable through site or bibliographic research. The second part deals with the site evaluation, identification of features and characteristics, objectives of future actions. The third part looks at the prescriptions for overall site management, work schedule and staging of works. It is the strictly operational part of the model.

As an operational tool the proposed Management Plan cannot, nor does it intend to, accurately reflect the specificity of the analysed cultural area. It may include additional specific components such as specific risk preparedness plans or development scenarios, but these are viewed as non-compulsory studies. This top-to bottom type of tool needed to be complemented by a bottom-up approach. The main advantage of a top-to-bottom managing tool consists in its standardization, which simplifies procedures and makes for the efficiency of the process. Although this kind of approach might be appealing especially for the Nordic culture where efficiency and pragmatism are paramount, it lacks the specificity and unique outlook characteristic for the bottom-up approaches.

Management of Heritage in relation to UNESCO and the World Heritage Convention in a tool that tries to **identify, protect, conserve, present and transmit** present values to future generations[498]. For listed World Heritage Sites, UNESCO also requires from the State Party to ensure[499] the integration of the protection policies into operational planning programmes, setting research and information centres for the sites, setting specialised conservation centres, elaborating risk preparedness plans, to guarantee appropriate legal, administrative and financial

[497] Feilden, Bernard. Jokilehto, Jukka. Management guidelines for World Cultural Heritage Sites. ICCROM. Rome 1993
[498] World Heritage Convention. 1972. Art. 4
[499] World Heritage Convention. 1972. Art. 5
[499]To ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage situated on its territory, each State Party to this Convention shall endeavour, in so far as possible, and as appropriate for each country:

1. to adopt a general policy which aims to give the cultural and natural heritage a function in the life of the community and to integrate the protection of that heritage into comprehensive planning programmes;
2. to set up within its territories, where such services do not exist, one or more services for the protection, conservation and presentation of the cultural and natural heritage with an appropriate staff and possessing the means to discharge their functions;
3. to develop scientific and technical studies and research and to work out such operating methods as will make the State capable of counteracting the dangers that threaten its cultural or natural heritage;
4. to take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage; and;
5. to foster the establishment or development of national or regional centers for training in the protection, conservation and presentation of the cultural and natural heritage and to encourage scientific research in this field.

systems necessary for the upkeep of the site. It has been noted that between 2005 and 2009 the absence of a management plan affected 63% to 69% percent of the listed World Heritage properties mainly by failing to prevent actions leading to reducing the authenticity of the site. Between 1979 and 2013 management and institutional factors have been considered threats for 77% of the properties considered in the State of Conservation reports.[500]

When discussing about UNESCO's listed sites, the management of heritage deals with the Outstanding Universal Values rather than values in general, therefore the definition of value and threshold above which values become relevant for present or future generation is not considered. During a "Planning for Preservation" seminar in 2013[501] it was pointed out that there is no need to discuss the value of listed heritage and whether or not it should be protected since its value has already been established by law, but rather how should heritage be protected. It was also noted that heritage is a non-renewable resource and therefore should be protected at all costs, without further alterations. However, this preservation attitude can apply to sites of Outstanding Universal Value or to places of national relevance, not to humble or minor heritage. In order to establish a management system that could be relevant for heritage in general, one would need to consider all aspects of heritage as well as values and meanings attached to it. Although individual historic sites are generally irreplaceable and unique, it is limiting to consider heritage in general or heritage in its conceptual meaning as a non-renewable resource, since it excludes the possibility of creating our own heritage for future generations. Existing cultural landscapes might be non-renewable but "heritage" in its conceptual definition is not. Heritage is constantly being created and the attitude of protecting contemporary buildings or cultural manifestations for future generation, i.e. as heritage, underlines our ability to constantly create the heritage we want to pass to future generations. Some of the best examples of ensembles of Outstanding Universal Value present a vast layering of meanings belonging to various periods of development. Refusing all interventions or future additions to heritage will prevent the addition of meanings and layers, therefore transforming heritage in valuable museum exhibits. The present generation should not be viewed solely as the keeper of past values for future generations, but rather acknowledge its moral obligation to preserve what we inherited but also mark the natural historical evolution stage in the continuous development of heritage. It is within the reach of the contemporary professionals to decide when our contribution should be to merely preserve, or whether it is significant to enhance in the spirit of our present-day values. One must bear in mind that we need to preserve and enhance not only conserve and pass on. There is no simple or straight answer when it comes to preservation and sustainable use of our heritage, but one of the greatest risks in this relatively new field is to stop asking questions regarding meaning and start taking rules for granted. The Management Plans, as opposed to legislation or norms, strive to ask the right questions and optimise the conservation process. Especially for historic urban landscapes, the questions of value, impact and significance are paramount for any action plan.

UNESCO and its affiliated bodies have long started a campaign aimed at empowering communities and strengthening the connection between heritage and its present day context. In the 2013 Managing Cultural World Heritage manual this is defined as **"capacity building"**[502] and it

[500] State of conservation of World Heritage properties, A statistical analysis (1979-2013), UNESCO. 2014, available at whc.unesco.org/document/134872
[501] Dushkina, Natalia. "Planning for Preservation?" open seminar. Aalto University. Otaniemi. 12 -13 December 2013.
[502] "Managing Cultural World Heritage." 2013. UNESCO World Heritage Centre. Paris. p. 50

stresses the importance of increasing the skills, knowledge, abilities and behaviour of people directly responsible for heritage, empowering decision makers and strengthening the dynamic relationship between heritage and its context. This implicitly contradicts the idea that values of a listed World Heritage Site should not be questioned or re-assessed, or that these outstandingly valuable sites should be protected under a glass dome as museum pieces. Heritage is a dynamic system whose sustainable existence is dependent on its integration into the contemporary social, functional, economic, urban networks.

The Nordic Countries

The first system aiming at providing a guideline for the evaluation and the integrated conservation of heritage was **S.A.V.E.** -Survey of Architectural Values in the Environment, elaborated in Denmark in 1987. Initially focused on Danish heritage, it was later followed by its broader version, the **InterSAVE**. The main developer of the system is Professor Gregers Algreen-Ussing, a Danish architect and professor emeritus at the Kunstakademiets Arkitektskole. It is focused on stakeholder consultation and eliminates all suspicion of presenting a biased architectural perspective on the conservation of heritage by relying on a local consultative group of local authority, central authority, local museum, local archive, preservation specialists and all the other interest groups. This ensures that the plan will have a broad, holistic view on the problems and elements affecting the site considering all stakeholders. The analysis method relies on three phases. The first phase consists of the preliminary investigation looking at the factual description, historic analysis, and architectural observation. The second phase, the field work, consists mostly of mapping systems, a sensitive description of perceived architectural features, looking at dominant architectural features, networks and patterns as they are experienced and as they function within the urban structure. Both phases consider the city at different scale, from the urban area to individual buildings. The third stage - the Preservation Atlas- represents the summary of the previous two stages, focusing on the conclusions of various mappings and analyses, summarizes the main architectural values and characteristics, underlying the specific areas or points of the city. The last stage can reveal the local specificity and "*genius loci*" of the place.

In addition to the SAVE method, the **CHIP**[503] was developed in 2000-2001 for the conditions specific to the Danish cultural heritage. It is a bottom-up type of approach, which could be adapted supplementary to the InterSAVE to other cultural areas. The main objective of this tool is to establish a system for value hierarchy, setting priorities, choosing the best planning and protection instruments suitable for specific sites, involving the communities and major stakeholders at the same time. Perhaps its most obvious benefit is that it justifies objectively the boundary and significance centres of the heritage area and its buffer zone. The main features and significance of the analysed cultural landscape comes from the topographical and historical attributes. Therefore, prior to establishing the boundary of the research area, a topographical and historical documentation of the wider context is needed. Historical development and the representative epochs link the area under study with the rest of the country and place the heritage resource as a node in the intricate framework of cultural interconnections. The origin and dynamics of various cultural influences become thus clearer and more relevant. Various themes related to the cultural heritage can be defined, relating either to specific functions and activities

[503] Cultural Heritage in Planning

throughout history, ethnic groups, lifestyles or representative events or landmarks that shaped the place and community. The subsequent surveying of the area would take into account the specificity of the "theme"[504] and identify areas of concentrated historical layers and meaning.

Starting with 1999 the Nordic Countries began searching for a holistic tool for the analysis, evaluation and decision for intervention in historic areas. A new type of guideline started to be developed in the Norwegian Directorate for Cultural Heritage, adapted for the local heritage and broad enough to answer the requirements of the international forums. In the following years the tool was developed and used in Sweden and Finland, the **DIVE** method taking its final shape as a result of the **Co-Herit**: "Communicating Cultural Heritage in Urban Development Processes" project 2007-2008[505]. The pilot towns used as study cases were Tromsø in Norway, Pietarsaari in Finland and Arboga in Sweden. DIVE is based on public participation, which is a difficult task for researchers, as they usually have limited contact with the stakeholders. However, the local authorities and groups can be addressed through a virtual or in some cases physical communication platform. The DIVE analysis system combines the clear structure of UNESCO's Management Plans with the more place-specific SAVE mapping system. The structure of the DIVE analysis is divided in four stages: The description stage **Describes** the intrinsic qualities of the site, joining the contemporary geographic and physical features with the documented historical facts. The second stage assesses or **Interprets** the factual evidence gathered in the first stage, establishes correlations between historic facts and physical proof, considers the integrity and authenticity of the site. The third stage, the **Valuation** considers the values of the site considering the notion of value from contemporary perspective. This is the most subjective stage of the analysis, as the concept of heritage values has varied dramatically in the last century[506]. The last stage is the **Enablement** stage, where areas of intervention are discussed, issues such as sustainable development and envisioned changes are debated, maps and illustrations for future interventions are drawn. Overall, the four stages are analysed from a macro scale - the general landscape of the analysed area- to the scale of individual buildings. Mapping patterns, urban typologies and networks which was the innovation of the SAVE analysis, is in this case structured in a more rigorous manner, more suitable to the UNESCO's requirements and guidelines.

The **Co-Herit** project looked at a number of cities from the Nordic countries, generally emphasizing the importance of the participation of members of all stakeholder groups. Another report, **SuHiTo** - Sustainable Historic Towns project, developed in Finland in 2006 was looking at historic towns from the Fennoscandian region, Estonia and The Baltic Sea region. Although it provided a number of concepts, issues cities are faced with today project looked at Tromsø, in Norway.

[504] such as: agriculture, coastal trades, fortifications, recreation activities of the 19th century. The theme established the 'major significant' of an area or historic period.
[505] Co-Herit 2007-2008: http://www.riksantikvaren.no/filestore/CoHerit.pdf
[506] In Finland it is interesting to observe the evolution of the values associated to historic city from the beginning of the 20th century to this day. The case of Old Porvoo: in 1911 2 buildings were protected, in 1936 8 buildings were protected, 1970s half of the building stock was protected, by 1990s all buildings in the historic area were protected. Over a span of 80 years the concept of value evolved allowing for the whole historic area to be protected.

S.U.I.T. project or the Sustainable development of Urban historical areas through an active Integration within Towns, was published in 2004, part of the European Union's 5th Framework Program, with some features focused on Danish heritage. It aims at the long term, active preservation of cultural value in the built environment and focuses on the "urban fragment". The urban fragment is close to the CHIP's "theme" - an area of condensed significance placed in a more diluted, often considerably different context. This approach can easily be adapted and used for historic areas where fragmentation is most visible, where insertions are needed, as it tries to re-weld the significant "urban fragments" back to a meaningful whole. The system acknowledges that urban environments are dynamic and need to be continuously involved in cycles of sustainable development activity. Unlike any other projects, SUIT uses Environmental Impact Assessments (EIA) and Strategic Environmental Assessments (SEA) in order to accurately assess the impact of any development, conservation or non-intervention decision. The analysis of possible intervention scenarios controls the threats and limits the cost of lost opportunity within heritage areas.

InHerit - Investing in Heritage to Regenerate Heritage Cities generated a report published in 2007, result of a project spanning over 2 years and focuses mainly on heritage-led urban regeneration. The model promoted by this project states that heritage values and appropriate management can generate opportunities, jobs and overall economic growth for a heritage city and its inhabitants. It comes as a reaction to the assumption that restoration and heritage protection is an expensive activity, contradicting development and economic growth, an activity that absorbs more funds and resources than it generates. Urban regeneration is in this case achieved generally at the city level, through investment in the heritage areas. Key values for the heritage areas are re-assessed and re-defined, the intrinsic and instrumental values of heritage focusing more on the impact heritage has on the community rather than on the physical characteristics of objects. Values such as: the educational value, identity that relates to the community and region, responsibility for maintenance and preservation of current resources for future generations[507], specificity and distinctiveness, as well as economic benefits generated by the exploitation of the heritage resource in a sustainable way, the improved profile and perception, local pride and community spirit, community involvement and attachment to the heritage, are associated to the living historic city understood as city + community. The city is no longer considered a physical urban entity which can be understood and analysed as a complex articulated material system, but rather a living entity, a dynamic process combining the people that inhabit it, the functions, activities and lifestyles that gives it orientation and purpose, and their physical manifestation - the material system. It is no wonder that a model based on a concept developed in the United Kingdom in 2002 would have such a Geddesian approach to the historic city. The threats to the historic cities are exacerbated by the to-bottom approach to conservation that tends to homogenize all cultural areas, bringing them closer to a common global denominator. Globalisation, standardisation, changes in lifestyles and work patterns, religious and ethnic intolerance are seen as the major threats to both cities as well as communities. Sustainable development according to this model rests greatly on the re-use of heritage resources, favouring fine-grain insertions rather than large-scale developments. The

[507] the sustainability of the conservation process.

model was applied on study case cities from the United Kingdom, Sweden, Italy, Poland and Spain.

Name	year	Main focus	Study cases	Model/approach Project/report	Key concepts	Scale
S.A.V.E. /InterSAVE (Survey of Architectural Values in the Environment)	1987	Collaboration between stakeholders, site mapping, Integrated conservation	Danish heritage (SAVE) International heritage (InterSAVE)	Proposes an innovative approach to holistic evaluation of threats and problems in 3 stages	Scale analysis: urban to architectural, Empirical architectural and urban mapping, specificity, characteristics, genius loci	Urban to architectural
C.H.I.P (Cultural Heritage in Planning)	2000-2001	Cultural landscape and identification of cultural environments, value hierarchy and establishing priorities for future programs	Danish heritage	Proposes an approach to cultural landscapes, focuses primarily on tangible cultural heritage and less on the intangibles or communities.	Historical themes, Surveying themes, Prioritizing cultural environments, types of landscape, Buffer zones	Urban. Cultural landscape
SuHiTo (Sustainable Historic Town)	2003-2005	Sustainable development and urban heritage management	Norwegian, Finnish, Swedish	Project that does not propose any systematic approach to heritage. Presents some issues.	Sustainability, urban heritage management, co-operation and communication.	Urban - towns
D.I.V.E. (Describe, Interpret, Valuate, Enable)	2008-2010	Integrated conservation, Multi-referential perspective (economic, political, social, cultural, environmental and spatial)	Mainly Norwegian, also Finnish, Swedish.	Proposes a 4-step approach to describe, interpret, evaluate and enable heritage. ***A.M.P. is somewhat similar***	Public participation, stakeholder involvement, mapping patterns, urban typologies. A follow-up model of the SuHiTo report	From macro (regional) to micro (architecture/object).
S.U.I.T. (Sustainable development of Urban historical areas through an active Integration within Towns)	2004	Urban fragment. Impact. Considers intangibles but community involvement is limited in the model. Mainly focuses on the tangible dimensions	Denmark, other E.U. countries	Approach based on the assessment of impact. ***A.M.P. is somewhat similar also stressing the necessity of impact/risk assessment***	Impact assessment, environmental assessment, quality analysis. Area-based monitoring is considered in the approach	Urban: urban fragment
InHerit (Investing in Heritage)	2007	Historic urban areas; Heritage-led urban regeneration; Safeguarding heritage	Sweden, E.U. countries	The report does not introduce a systematic approach to heritage	Perception of heritage. Intrinsic and instrumental values of heritage, Threats, problems, opportunities, communities, intangibles	Urban: Historic urban areas.

Table 3 Comparative diagram: projects and reports on heritage management in the Nordic Countries.

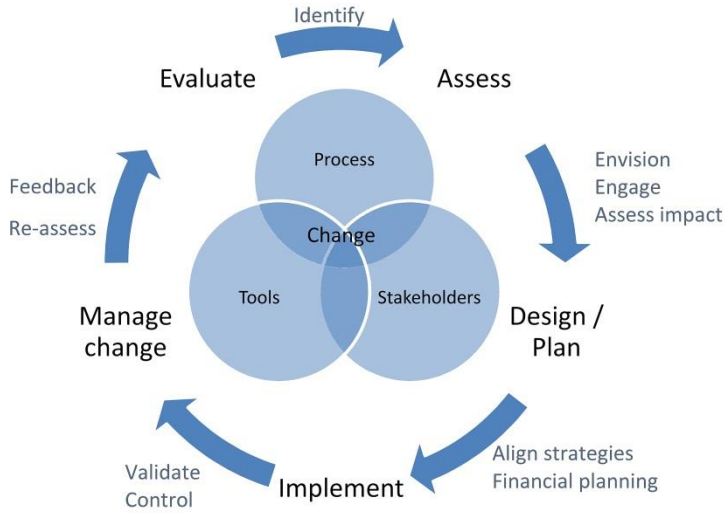


Figure 19. Typical management cycle.

Management plans have been used in various fields aside from the business and organization context or the urban management context. However, most management models follow the same structure and principles. Mikkel Mertz, Morten Gryning and Ambreen Khan[508], consider Coherency Management is one requirement for the competitiveness of enterprises in the contemporary Informational Era. The holistic understanding of strong points, weaknesses, competitive advantages, values and risks is threatened by the vast volume of information available. A coherent comprehensive vision sits at the base of their model of the Coherency Management, used in the I.T. discipline.

The 5 step cycle of planning, implementation, monitoring, evaluation and feedback, with different emphasis placed on the different stages of the cycle, depending on the field is common for all management plans. For the more dynamic and versatile fields such as IT technologies and even heritage over the past 20 years, the assessment of the impact of trends, changes, proposed interventions or implemented innovations can set the difference between a successful project and a complete fiasco.

The Coherency Management[509] refers to the management policies employed by complex enterprises. In a sense, historic cities can be viewed in the context of the touristic industry as "tourist consumer goods" needing to be protected, maintained, used and promoted in order to maximize profits and minimize costs. Profits can be viewed as financial gains, or as embedded values linked to the economic gains of an entire region. Costs for the historic city usually refer to the value diminishment: overall value loss, loss of authenticity, diminishment of historic material.

A number of networks were started, planning to improve the living quality in urban heritage areas, promoting sustainable development and regeneration of urban sites[510]. In each case it seems that additional information can be provided, a different perspective can improve the living quality in the heritage areas.

One of the clear conclusions is that regardless of the multitude of models, guidelines and projects proposed there is not an ideal tool capable of covering all aspects pertaining to heritage urban areas. Different perspectives can show different weaknesses, while a system of monitoring,

[508] Mertz, Mikkel, Morten Gryning, and Ambreen Khan. 2010. Coherency Management in Carlsberg. Copenhagen: IT-University of Copenhagen.
[509] Ibid.
[510] in addition to the networks already mentioned: The RFSC platform - Reference Framework for Sustainable Cities 2013 - complete with an online simulation tool

feedback and re-evaluation is fundamental if we are expected to ever learn from past experiences.

The idea of the **Aggregated Management Plan** for the Nordic historic towns, comes precisely from the need of a holistic tool, the need to cover minimal requirements for urban conservation, but also provide a flexible tool that can be used in different ways, according to the requirements of most users. Flexibility in this case means to provide a system which is broad enough to incorporate all relevant aspects of conservation and development plans for historic areas, but is structured in a concise manner that can easily be used to answer the fundamental questions asked when elaborating a management plan for the first time. The A.M.P. proposes to bring together all, or most of the tools available so far using a principle of addition or aggregation. In most of the mentioned models, a few elements are common: the description of the site, both geographic and historic, the analysis of significance from various perspectives, an analysis of strong points and weaknesses or threats, and a plan of implementation striving to enhance the qualities and eliminate the treats while maintaining the values of the site. One of the main differences between the proposed A.M.P. and other previous models is stressing the significance and meaning of the various components of the historic urban landscape for its definition. It considers that "*in order to understand the significance of an historic urban landscape, it is necessary to understand the reasons for the foundation of a place and the forces that have given the incentives for its further development*"[511]. This means that historic dimension and development of a place, the overlapping layers of significance as well as the economic, social, cultural or spiritual dimensions are equally important. The Aggregated Management Plan starts off from these minimal requirements, and grows in complexity through addition. The main advantage is the ease of correlation between the parts that can be elaborated independently and then fitted in the body of the plan within the given framework: the understanding of the historic urban landscape. By aggregating all research, preservation and development strategies in one comprehensible document, duplicating existing research or omitting fundamental pre-existing data is limited, but also it is possible to highlight the links between components and layers of significance which could otherwise go unnoticed.

[511] Jokilehto, Jukka. 2010. "Notes on the Definition and Safeguarding of HUL." City &Time 4 (3). http://www.ct.ceci-br.org.p.48

The structure of Aggregated Management Plans for wooden urban heritage

In the structure of the management plan, there are common traits, which have appeared in most models for heritage management. These key elements or chapters represent the minimal requirements of any management plan and they can be detailed according to the specificity of each site. This basic structure, which represents the top to bottom analysis, answers the minimal requirements in order to begin understanding a given site. It can be roughly divided in 5 groups.

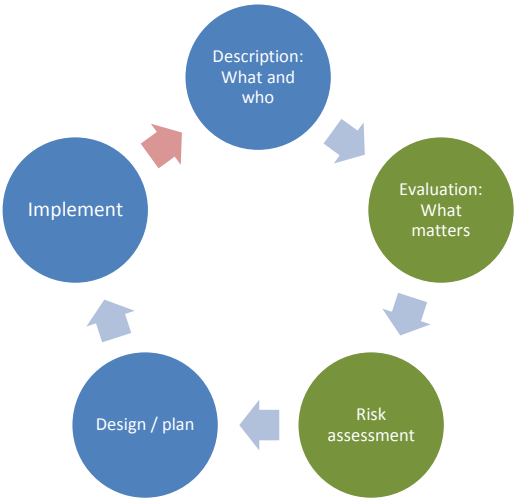


Figure 21: Typical structure of an Integrated Management Plan, based on the Management guidelines for World Cultural Heritage Sites and models presented

Figure 20: Typical structure of an Aggregated Management Plan, integrating elements specific to the DIVE and SUIT models

For the Aggregated Management Plan there are six essential components. The first three stages combine the Nordic D.I.V.E. approach: Describe, Interpret, Valuate and enable, focused on public participation and stakeholder involvement, with the S.U.I.T approach focused on impact assessment and area-based monitoring. The S.U.I.T. model introduces in 2004 the importance of monitoring and feed-back, which is the sixth stage considered in the Aggregated Management Plan essential for the validation of the model.

1. What and who

The first component is the description of the site, which presents the physical and intrinsic qualities of the site. It describes where the site is situated, what are its physical coordinates and attributes, but generally refrains from giving any indications of value or significance. This phase is describing the site and its constituting elements visible today. It may also indicate the state of conservation of various elements of the site. It may describe the users and stakeholders currently involved with the site - ownership, involvement of organisations and other groups. The general context of the site can also be described as long as the description maintains its objectivity and does not become and analytic process. The legal framework, institutional framework, resources and stakeholders involved can also be nominated at this point.

For the definition, presentation and analysis phase, when considering of the current condition and present day characteristics of the site it is important to properly define the protection area, buffer zone and fringe areas.

The **geographic definition** of all boundaries is essential, including **protected area** and **buffer zone** within the geographical area. The buffer zones should be delineated considering the areas of historic relevance for the protected area, as well as the areas of present day impact. As pointed out in chapter 1, a random buffer zone around the protection area is more detrimental to the site, by adding to the bureaucracy of the town plan and protection area. An improperly delineated buffer zone has no significance, brings no benefit for the protected area and is disruptive for the planning and development processes. The buffer zones should consider areas of relevant historic growth and expansion around the protected area should consider vistas, should take the traffic and functional pressure (hotels, restaurants, facilities that cannot be accommodated within the protection area) away from the historic area. **Fringe areas**[512] are equally important for the protected area and the buffer zones. These transit areas situated on the defined borders help maintain the coherence of the city and prevent fragmentation of the settlement derived from different conservation and development policies applied within different zones**. The fringe** areas are subject to delicate interventions, insertions and modifications which need to be done with care in order to negotiate the gradated transit between areas with different characteristics.

The **physical description of the historic town or of the tangible components** is also important and could be done in an objective way, without assigning values to the description process. The elements that are usually considered in historic towns are: the buildings and built structures, spatial organization, forms and scale considering townscapes and vistas, connections

[512] Managing Historic cities, Unesco manual 27, p.38; "Urban Morphology and historic urban landscapes", Jeremy Whitehand

and connectivity, functions and their evolution through time, the materials used, the infrastructure elements. These should be viewed from the perspective of the living historic city, adding the social component and the intangible elements into the description.
Most management plans and analysis models look at the tangible components of the city in this phase, from different perspectives.

The buildings and built structures are often considered in an isolated manner, without little regard for the relationship between objects and their general context. This architectural analysis falls in the responsibility of architects and architecture historians and is often the subject of separate studies focused on the history and characteristics of local landmarks. There is a dual manner in which buildings are considered: their exterior features in relation to the immediate surroundings and the interiors in relation to the building's function and evolution. Often the buildings have a different discourse and different characteristics, inwards toward the user and outward toward the city. From the perspective of the historic urban landscape, the description and inventorying of architectural elements and cultural resources of the property should be made considering both the intrinsic and tangible aspects, interior and exterior features: design, material, workmanship, setting as well as connections, relation to the setting, natural weathering, use and most importantly users. The recognised specific features of the place, or characteristics, usually have associated values reflecting their quality and uniqueness. These will be mentioned in the second phase.

Spatial organization, the relation between public and private spaces considering functions and buildings, streets, urban patterns, markets, parks, squares, infrastructure is dealt with by urban planners and can be the subject of different studies than building analysis. Analysis of the **morphology of the urban fabric,** granularity is made generally considering the outer shell of the buildings. This information of the physical dimension of the heritage is prevalent in the Local Master Plans. The **evolution** of urban components can be presented in a descriptive manner, without stressing the importance and therefore value of various components.

Forms and scale, followed by defining typologies and patterns related to them, are analysed also from an urban perspective. The proper definition and understanding of the height regime of the town, dominant buildings, important view corridors, are fundamental for the future insertions and changes brought to the site, or to its associated buffer zones, and as such are generally discussed in most analysis models. The main concern, however, is that generally the analysis is focused on immediate relations between spaces, which are easier to define and control and they tend to disregard visual connections and specificity from afar, especially when these don't occur along visual corridors: boulevards or streets. The case of the Dresden Elbe Valley[513] clearly shows that vistas, forms, scale of insertions are relevant for historic urban landscapes beyond the immediate vicinities, and once again points out the relevance of delineating the buffer zone as an area of impact for the historic urban area. At an urban level, the general shapes, silhouettes and scale of the town delineate the characteristics of the cityscape. Vistas are likely to be better understood in a holistic manner, considering the views from afar and elements of specificity contributing to the general perception of the town. It is important to consider how one perceives the place approaching the site, and how the connections between the site and its environment have been perceived historically. For example, in Finland's historic towns the limits

[513] The International Journal of Environmental, Cultural, Economic and Social Sustainability, Volume 7, Issue 5, pp.391-396. Article: Print (Spiral Bound). Article: Electronic

imposed by the custom fence or the windmills historically placed on the outskirts of the town, can be considered as characteristics of the vistas. Integration of future changes would be impossible without a thorough understanding of the site's defining forms and scale, which are also conditioned by the materials used.

Connections and connectivity focuses on the functionality of the streets, their size, rank, role for the town, the networks they create. These are part of the spatial analysis of the place, but often are analysed in depth especially because of the relevance the street structure holds for the value assessment. For the connectivity analysis of the aggregated management plan, it is important to assert that the street has a number of determinants aside from its size, position and fronts. It acts as an element of severance across and connection along. It separates and brings together at the same time different components. Through streets and their traffic the entire existence of a community can be strengthened or broken. Historical connectivity is part of the "*genius loci*" of a place, and can reveal essential information on the evolution of a place. In the particular case of the historic towns along the Gulf of Bothnia, the connections and functions of the place changed historically, often changing the outward character of the place.

Functions can be analysed by considering both the traditional and contemporary and the evolution from one to the other. The functional analysis typically refers to the uses of buildings, but it can also relate to the uses of spaces in general, to periodic happenings that implied a change of function within a given area, to changes and shifts in dominant functions within an area. The idea presented in the 1993 Management guidelines for World Cultural Historic Sites: "Functions of a group of buildings should essentially reflect the civilization or succession of civilizations which have prompted the nomination of the property" should be interpreted with care, as it may annul the possibility of adding values from present use. In some cases it might encourage "freezing" the buildings and their historic function, which can result in the "museification" of the heritage resource. Functional diversity is a very important quality.

The **materials used,** the analysis of their age and typology, of textures and colours emphasizing traditional use or techniques, as well as their evolution within an object or site are paramount for wooden towns. Generally the materials used in a historic area are analysed in conservation projects and are only mentioned, at most, in local master plans. For wooden historic urban landscapes, the materiality of the buildings adds to the specificity and character of the place. Of course, the materiality of different components can become the subject of analysis if their continuity or particularities are relevant for the specificity of the place. For the wooden components of the Finnish historic urban landscapes, the original use, the transformation, decay and particular properties of the material can shed light on the specificity and values of the place. The importance and impact of using wood in World Heritage Sites and delicate historic objects is further analysed in chapter 6 of the present thesis.

There is a growing need of the acknowledgement of **the infrastructure elements** comprised in the town's functioning: electrical cables, wires, signs, shop fronts and street profiles, street coverings, advertisements, water mains, trash bins, which are seldom considered in regular urban analysis. In terms of urban conservation, there is a debate whether these elements diminish the authenticity of historic towns. An analysis of the existing infrastructure elements, as well as of new infrastructure elements needed for the area could show the relevance and value of particular elements.

Image 32. Old Rauma electrification systems: 20th century and today, and the difference in atmosphere. Source: Left: Rauman museo 1906- 1912 Image code: RMK25074a, Right: photo by Anca Dumitrescu 2014

Most components of the 20th century electrification systems in Finland's historic towns have been removed from site or from view, while most of the street paving has been replaced in the past 30 years. The decision on whether these signs of modern life should be hidden, removed or, on the contrary, provided for the local residents together with all the comforts of modern technologies, should be made at a later point of the management plan. Nevertheless, it is important to analyse the existing layers considering these visible components that have a strong impact on the perceptions and lifestyle on site.

The **intangible components** are nearly always analysed separately from the architecture and urban analysis. This is perhaps due to the fact that experts from different fields are required. The socio-economic profile of the users, traditions, cultural manifestations or processes are relevant and should be emphasised in relation to their context both natural and man-made, stressing the essential milestones of change in their historical evolution. Defining and profiling the **stakeholders** of the site is an important step for further efficient development and protection strategies: "without the understanding and support of the public at large, without the respect and daily care of local communities, which are the true custodians of World Heritage, no amount of funds or army of experts will suffice in protecting the sites."[514] - Mr. Koichiro Matsuura. **Personnel and experts needed** for research and onsite can be considered a different category of stakeholders. The aggregated management plans should include the analysis of the intangibles, ideally include the opportunities made available for all stakeholders, especially for the direct users, and ensure the involvement of the users with the site conservation as well as a good understanding of the present values. Merging the tangible with the intangible characteristics and stressing the interdependence between the two is one of the most important differentiating traits setting apart H.U.L. from the analysis of historic sites, the aggregated management plans from operational conservation and general management plans.

The summary of existing legislation and organizations affecting the site or contributing to its protection and maintenance of the site should be presented the management plan. These

[514] UNESCO. WHC-99/CONF.206/7, p. 4
[514]Twelfth general assembly of state Parties to the Convention Concerning the Protection of the World Cultural and Natural HEritage. Paris. 1999. (http://whc.unesco.org/archive/1999/whc-99-conf206-7e.pdf accessed December 2013)

are restrictions or resources that can be used for the improvement of future actions. Some of the perceived shortcomings of a site, such as the limited working hours of the shops in Old Rauma[515], have their origins in the legislation of the State Party. This component is missing in many management plans, although it can have a significant impact on the protection and conservation plans. It is important to roughly define four elements, and summarize the resulting resources and limitations.

One is acknowledging the enforced **set of laws and existing planning regulations** affecting or pertaining to the site – existing or past master plans still sanctioned, regional development plans. These control the possibilities of change in the area.

Second is identifying the o**rganizations at a national, regional or local level** responsible or involved with the site. It is important that the users of the site are made aware of the responsible bodies and available resources in relation to the site: reliable, qualified craftsmen, consulting and advisory groups. Volunteering work or collaboration with research institutes or universities can provide cheap and efficient solutions, especially in documenting particular aspects of the site.

The third element with particular relevance for the users is identifying and establishing **funding and financing programs** both national and international, which are available or can be used by the site administration for different purposes: conservation, promotion of the site, development.

Fourth element, again considered separately form the general management plans, are **the statistics and foresights**, usually carried out by an institute of statistics at a regional level. Analysing demographic data and forecasts of demographic growth and decline, economic factors, traffic, projected motor traffic and developments, industrial zoning can prove extremely relevant for future development and can physically affect the development of historic areas.

2. What matters

The second component, the evaluation and assessment considers the existent as well as the facts presented in historic documents, writings, readings of the site, community involvement, considering generally all significance attributed to the site historically and by present day users. In this evaluation, assessment stage, the Management Plan can choose to include bottom-up analyses, involve stakeholders for a more in-depth view on the site. It is an essential stage of the Management Plan, since **the specificity** of the place and the "*genius loci*" can be defined based on a joint assessment of the values associated to the site. The value system, criteria for analysis, characteristics and values of the site are all defined at this stage.

It has been generally agreed that identifying the actors involved in the conservation and development process and involving them as much as possible in all the stages of the elaboration of the management plan sets the base for a more sustainable project. It is important to give all stakeholders a sense of responsibility and belonging to the community involved with the heritage. In the Nordic context the property owners and the users of a historic site have a unique set of traits. On the one hand, they act and behave in generally responsible manner provided they are well informed. On the other hand, they have a tendency of reacting negatively to rules, restrictions and limitations imposed from outside the community. Defining the specificity, values

[515] Identified by the users as a result of a questionnaire aimed at identifying the strong points and weaknesses of the World Heritage Site from the perspective of the users. The results of the questionnaire carried out in 2014, are further elaborated in chapter 6.

and characteristics of a place and involving the stakeholders in the process is a fundamental step to be taken in elaborating an applicable Management Plan. In this case involving stakeholders is two-directional: getting information about the community values and important traits associated with the life on site, and on the other hand ensuring a thorough shared understanding of the property by the stakeholders. For World Heritage Sites, the statement of Outstanding Universal Value -SoOUV or SOUV- rests on the specificity and value of the site which are extensively defined at this stage. The SoOUV began its official existence in 1972 when the concept was pinpointed in the Convention concerning the Protection of the World Cultural and Natural Heritage[516] and became mandatory for all World Heritage Sites starting with 2012[517]. Over the past 40 years, the concept definition has remained the same, but its application became a lot broader, including value components such as: evidence of science and technology, industry and agriculture, cultural landscapes. The constitutive attributes and values of the O.U.V. have changed significantly. This reality is particularly significant for Finland, where the very present industrial layers are often disregarded in terms of value. The O.U.V. needs to fulfil the UNESCO criteria, among which to fulfil the test of authenticity and integrity, as well as justify its universality. The O.U.V. is important for World Heritage Management plans since its protection and maintenance is -or should be- the main objective of the management plan, just as maintaining the value and specificity of a heritage site is the main objective of its management plan. Establishing the specificity, values and the nature of the "*genius loci*" is therefore essential for the MP and conservation strategies and reflects a bottom-up approach. The Statement of Outstanding Universal Value requires a top to bottom approach in that the values of the site should be circumscribed to those defined by the ICCROM report and The UNESCO Operational Guidelines for the Implementation of the World Heritage Convention[518]

[516] World Heritage Convention. 1972
[517] ICOMOS states that " The UNESCO World Heritage Committee requires all World Heritage Sites to have in place a Statement of Outstanding Universal Value (SoOUV) by 2012. Each Statement has: a brief synthesis, describing the site and its Outstanding Universal Value (OUV) justification for the criteria, a Statement of Integrity, a Statement of Authenticity, requirements for protection and management. The Statements are approved by the World Heritage Committee after an 18-month evaluation period." http://www.icomos-uk.org/world-heritage/ last accessed November 2014
[518] Operational Guidelines for the Implementation of the World Heritage Convention, art 77-78, p.20 http://whc.unesco.org/archive/opguide13-en.pdf last accessed December 2013

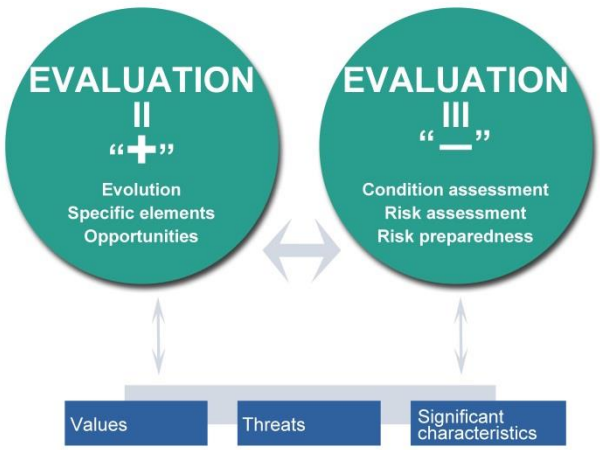


Figure 22 Proposed evaluation of significance, opportunities, threats and risks.

For the aggregated management plan, the evaluation and assessment stage is closely linked to the Interpretation and Evaluation stages of the D.I.V.E. model. This step is dependent on the definition stage, as evaluation is based on recognition and analysis of the different layers of significance. For World Heritage Sites it is important to accurately and clearly define what is significant as well as the level of authenticity and integrity. **Recognition of values** for all historic sites is fundamental, and represents the basis for decision making. This is usually considered in all management plans. However, for historic urban landscapes, as discussed in chapter 1, significance is a stronger concept than value although they are complementary. It is important to take into account that values are culturally defined and culturally dependent. As cultural significance may change over time, attention should be given to the influence of intangible determinants. The overall significance and value of a heritage resource, rests on many factors, including the objective values associated by professionals with the site. Significance is what brings the tangible and intangible values together; it represents a shared view of the majority of the stakeholders on the site. Concepts such as perception, awareness, legibility and integrity, accessibility, authenticity, proper communication and understanding of values as defined by professionals, all play a decisive role in defining significance.

The Outstanding Universal Value as stated in the Nomination file is based on a set of characteristics and attributes of the place that also need to be maintained. The local specificity and "*genius loci*" might not be obvious from the Statement of Outstanding Universal Value, but the implicit traits and attributes of the site that sustain the uniqueness of the place are paramount. Such is the case of Old Rauma, where the Outstanding Universal Value rests on characteristics of the site that do not result straight from the Statement of Outstanding Universal Value. **Authenticity and integrity,** with all their nuances**,** as warrants of value should have a special place in the analysis. Visual integrity, for example, has been gaining importance for heritage value assessment. It is important to underline at this stage that the Historic Urban Landscapes place higher the recognition of specificity and "*genius loci*" than concepts such as

integrity or authenticity. It is not because these concepts are not relevant, but because for historic urban landscapes found in constant use, they are somewhat implicit.

Assessment of values and significance represents the starting point for the objectives and expected outcomes of the management plan in general. Considering all of the above is therefore important to define the following in the assessment phase: the values associated to all cultural resources on site, both tangible and intangible; the relation between **heritage resource** and its setting in terms of value or significance; the possible infill areas with control of the height, size, scale of the new infill based on the value assessment and impact for the site, as this results from a threat-need-opportunity analysis of the site. The analysis of the value of **the streetscape, views, and vistas** in relation to their evolution should also be added to the assessment process. These elements are, as mentioned previously, not acknowledged in some management plans, and therefore their value and significance is sometimes ignored. Visual relationships to the surrounding landscape have become increasingly important in the past years, as Urban Visual Relationships can help support and enhance the identity of historic urban landscapes[519].

Establishing valuable existing functions, as well as compatible or incompatible functions for insertions is contingent on the accurate holistic analysis of significance for a particular place or plot. For H.U.L., allowances and tolerances for future interventions –limiting change- could be decided considering the cultural significance of a place rather than general urban indicators used in town plans. For all management plans, but especially for aggregated management plans it is important at this stage to ensure proper documentation and recording and correlation of existing and future studies.

For historic towns, the **analysis of their evolution** is particularly relevant in terms of urban patterns, streets, building fabric. It could be associated with a **comparative study** of historical and present day town plans, or cadastral plans, and accompanied by historic building inventories. The DIVE method employs the matrix from which conclusions can result based on a comparison analysis, and has proven successful in several studies looking at the specificity of historic places.

Studies focusing on understanding the logic of creation and **evolution of the place**, based on historic town plans, historic legislation, technical evolutions and innovations in the area or social, political, economic changes in time can help identify the "*genius loci*" of a place. This type of analysis may point out important historic landmarks for the development of the place or community which contribute to the specificity of the site. Therefore, at this stage it is important to include in the management plan those studies that help define stages of evolution and reasons behind it, as they may shed light on which are the heritage elements relevant for the transformation of the town.

3. The problems - condition assessment

The third component defines what needs to be avoided, the main problems and risks of the site. Most World Heritage Sites have risk preparedness plans associated but not integrated in the management plan. It allows for a more sequential approach to the conservation and protection of the site, and also allows the competent bodies to focus on their specific tasks. From an operational point of view separating the risk assessment and risk preparedness plans appears

[519] Declaration on the Conservation of Historic Urban Landscapes. 2005(available online at: whc.unesco.org/document/6812, last accessed March 2014)

to be more efficient. However, the specific risks associated to a site as well as the means and resources that can be used to mitigate or remove them must also be included in any strategic plan. The Management Plan should therefore define specific problems, risks, hazards, threats associated to the site. The S.W.O.T. analysis is one of the main tools used for pinpointing the strong points and threats of a site. The needs of the site, opportunities and underused resources should be also defined here. One of the components specific to the conventional approach, the analysis of the condition in which various components of the site are found, as well as the urgency of a future intervention should also be included at this point.

The input of the local community, users and owners of the site is essential, since their view on the functionality and threats of the area can point out sensitive and otherwise unnoticed issues. Losing an existing opportunity, underusing a resource, not responding to the needs of the site and its users as a result of unawareness are all threats to a historic site. Comparative studies have relevance for this stage of the management plan, as they also point out experiences, threats and problems associated to similar sites. Underlying threats could be exposed by analysing precedent similar situations or sites through comparative studies.

Risk assessment and damage evaluation for wooden historic urban landscapes should considers all recognized values of the site, as well as the stability and integrity of building elements, and propose emergency response in case of hazard. When dealing with wooden heritage, fire and moisture are the two main hazard factors that need special consideration. Fire is particularly relevant, given the flammability of the material, and since it is the one single most destructive force that decimated the Finnish wooden heritage on several occasions. With modern technologies and contemporary risk management and fire prevention systems, site managers feel they are adequately protected against fire. Yet in the past 2 years, fire affected a number of World Heritage Sites in the Nordic countries and worldwide[520], with the latest occurrence in the beginning of 2014, drawing attention once again to the necessity of fire prevention and protection plans for wooden sites within protection areas and associated buffer zones. Unlike fire, the second major threat for wooden heritage, moisture, does not pose an immediate, highly destructive risk. Its effects are felt on a long term, and are mainly linked to poor maintenance. Because it triggers the very dangerous moisture – fungi – insect and pest cycle, moisture problems can eventually lead to the accelerated degradation of the wooden parts, to the point of collapse.

Risk assessment is usually linked to defined threats, identified through a SWOT analysis. By recording **recurring decay types and spots and defining the causes,** one can ease the maintenance work. It is more efficient both in terms of workload and costs to find and eliminate the cause of decay rather than the effects. Financial crisis and sudden cuts in funding also need to be assessed, especially when funding for the site comes mainly from outside the community.

A first step in the process is mapping the present day "problem areas": dysfunctions at an urban level, apparent damage and decay.

The second step is the **threat analysis**, so determining potential threats. The process can follow any method[521] preferred by the team undertaking the task. The threat analysis should also

[520] in 2013: city of Hongjiang, China; Lunenburg waterfront, Nova Scotia; in 2014: wooden town of Lærdalsøyri, West Norwegian Fjords, Norway.
[521] the most notable: SWOT and TOWS most widely used, PEST analysis, brainstorming and in-depth interviews with members of the community

consider the likelihood of incidence for the considered threats as well as emergency intervention plans. All major decay factors should be considered as potential threats, as well as the environmental and social changes bearing a negative impact on the site. **The materiality of the historic resource becomes relevant when discussing threats leading to damage and decay. Wood** is particularly vulnerable to some decay triggers such as moisture and humidity variation, therefore implying a different approach to the analysis, survey and **diagnose of decay**. The first threats to the integrity of the building material are the typical **agents of decay**:

Fire as a threat can have a multitude of causes and does not only refer to arson but also considers lightning and faulty electrical systems as sources of hazard. Especially in wooden towns where the building materials are highly flammable and there is a high risk of not being able to contain the fire, special measures should be taken. All electrical systems are required to be replaced every 20 years for safety reasons, heat and smoke detectors should be installed in high risk spaces. There is a need for a strategic fire-fighting plan which should also ensure accessibility to all resources of the site, as well as the availability of the appropriate amount of water. At this stage, potential sources of fire should be mapped and analysed, considering a level of acceptable risk.

Water as a threat in general, refers to: flooding, water infiltration, moisture and humidity. Water is one of the main agents of decay for wooden structures, and the seasonal variation of relative humidity often causes problems for joints and structural elements because of the shrinking and swelling process. Damage from **flooding** usually is considered a natural hazard, and its occurrence is quite rare.

However, given the fact that in some countries, like Finland and Sweden, most wooden towns have been built in close proximity to the water -either river or sea-, the danger of flooding cannot be overlooked. Taking into account the extensive damage flooding can potentially cause to wooden structures, emergency plans should also refer to containing flood hazards.

Image 33. Flooding in Old Rauma 1906. Source: Rauman museo Image code: RMPK9367.

Serious **physical damage generally refers to physical actions and damage delivered through physical contact with the heritage resource.** The risk of **earthquakes** and their associated effects such as: landslides or soil liquefaction is relatively low in the Nordic countries, compared to other European areas.

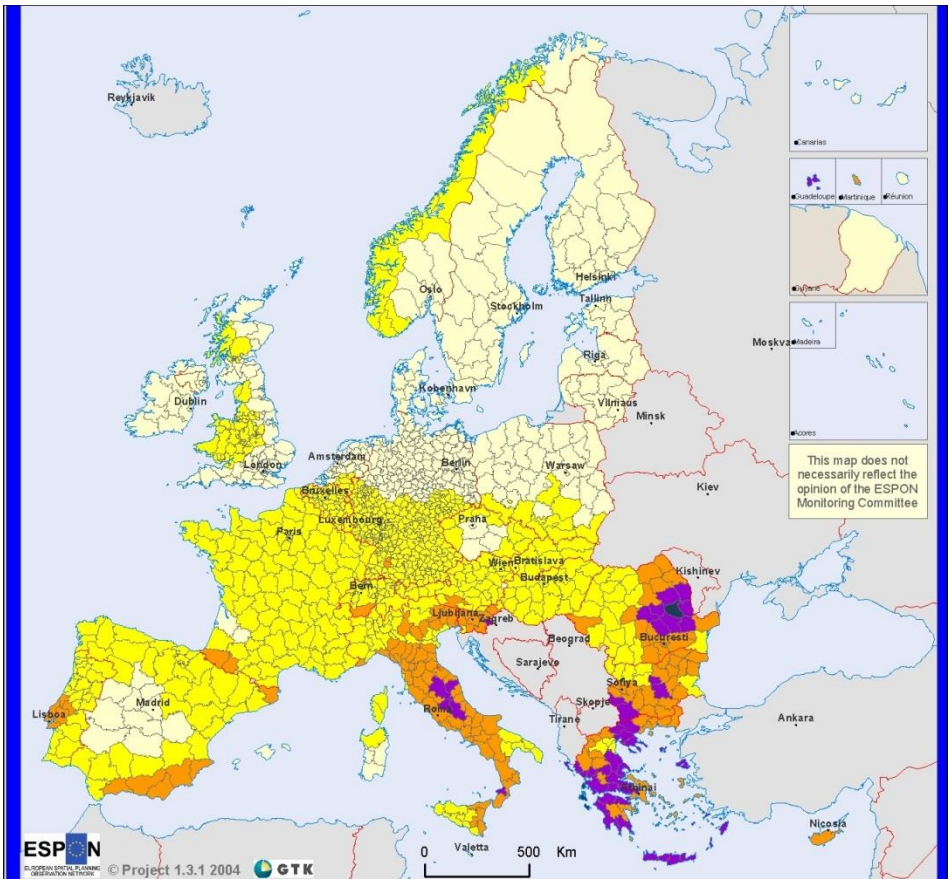


Image 34. Europe's seismic map. Source: European spatial planning observation network White –very low hazard; yellow-low hazard, orange- moderate hazard, purple and dark blue- high and very high hazard. Source: http://www.preventionweb.net/files/3825_earthquakehazardN3.jpg accessed December 2013

Another type of physical damage is represented by the cumulative damage from **wear and tear** from human activities. Mapping risks from touristic over usage should consider the touristic carrying capacity and daily, seasonal and annual number of tourists, state of conservation, facilities and services available, shopping outlets, vendor information, alternatives for tourists, all of which are generally part of the visitor management plans, but not included in the general management plans.

Other serious **physical damages** such as impact damage can be considered as part of the emergency planning. Structural damage, soil movement, displacement of foundations that can be observed on site should be surveyed in order to assess whether the damage is a result of an active threat. Especially in wooden elements, where historic components settle and creep in time, changing their geometry and load bearing capacity, it is important to assess whether the geometrical deformations are structurally stable.

Light, both visible and ultraviolet, is a major decay agent for organic materials. The damage from light exposure is cumulative and irreversible, and it affects the wooden surfaces at a cellular level[522]. In some cases surface maintenance such as painting or other surface treatments can prove satisfactory, but for delicate decorative elements exposed to the light exhibit the signs of damage can alter the perception and diminish the artistic value and integrity of the component: furniture elements, paintings on wooden support, small scale sculptures or other such decorative objects.

Generally for wooden towns, the **wood specific decay factors** should be considered and analysed with care as main threats to the site. The approach and damage assessment is different for different objects of different historic value, mainly depending on the acceptable risks threshold. Overall, the "increase in humidity" –"fungi" – "biological attack" –"increase in humidity and temperature" cycle[523] must be avoided as far as possible, especially through adequate ventilation of the wooden structures.

Chemical attack and decay should be considered especially for sites with high pollution risks from chemical factors. The vicinity to industrial production areas can be analysed, as well as the sources of chemical pollution. Air pollution, smog, acid rain, can be considered chemical-related threats which in some cases affect the historic materials, especially the contact surfaces: facades, roofs. Organic materials such as wood in Old Rauma or turf roofs in Røros, are especially vulnerable to chemical attacks, so potential sources must be observed with care.

Since The Nordic countries are not situated in a conflict area, **armed conflict** is a very low risk associated with historic sites. **Vandalism and theft** on the other side, associated with the tourism industry, can be considered a more probable threat. Ignorance as well as boredom[524] is one of the causes for vandalism[525], probably the most common forms of vandalism encountered in Old Rauma. Proper stimulation of the visitors through appropriate and challenging presentation means can minimize the problem. Both vandalism and theft also occur as a result of tourism and great variations between cultures and nations, which makes World Heritage sites particularly vulnerable to this kind of threat.

Over-restoration and "museumification" can occur when authenticity is considered in only partially from a unilateral perspective. When a specific image and atmosphere of a place are sought, to the detriment of the authenticity in substance or use, the end result is an open-air museum which fails to act as a living urban entity. Unfortunately this is a threat that affects Nordic World Heritage Sites especially when owners decide on the stylistic restoration of their property, based on nostalgia of an undocumented past. This is a threat especially for the historic buildings within the protected area. In the Scandinavian region there has always been a fascination for open air museums, which is why perhaps most of the first public museums of the sort were established here[526]. The open-air museums were initially intended to exhibit historic curiosities, but slowly developed into museums exhibiting the history, people, typical occupations,

[522] The light as a decay and damage source for wood is further described as radiation damage in chapter 3.
[523] These components as well as the humidity-fungi-bio-humidity cycle are further described and elaborated in chapter 3.
[524] Feilden, Bernard M. "Conservation and Tourism." ICOMOS. http://www.international.icomos.org/publications/93sy_tou7.pdf.
[525] Pennock, Hanna. 2010. "Vandalism." In Handbook on Emergency Procedures, edited by Willem Hekman, 8–10. ICMS. http://icom.museum/uploads/tx_hpoindexbdd/ICMS_Handbook_eng.pdf.
[526] Mork, Paal, ed. 2011. Norsk Folkemuseum: The Open-Air Museum. Norsk Folkemuseum. p. 12 in reference to King Oscar II Collections, the world's first open-air museum.

objects and buildings, building traditions, settlements and settlement typologies, lifestyles, dress codes and customs specific for a place or culture. Their purpose was to collect and exhibit the extra-ordinary, the curious and the eccentric specific to a place. The open-air museum nowadays is not a lifeless place, as first-person interpretation techniques and re-enactments bring back the life with historic accuracy, but they cannot be considered historic urban landscapes as the life portrayed is not truthful to the contemporary society. The unique, peculiar, the story told, and information conveyed, are often more relevant than the authenticity of the materials: the copy may be an acceptable surrogate for a decaying or sensitive original. Integrity of the object is more important than the relation of the object with its surroundings: in a museum, the displacement of a ritual object or a house from its original context does not reduce its value as an exhibit, although the significance of the object itself is lowered through de-contextualization. Legibility and understanding of the selected values is more important than continuity and integration in the present culture - which for museum exhibits does not exist- which also has an impact on conservation. Conservation serves the legibility: the object can be repaired; its lacunae can be filled in order to achieve the understanding of a selected value or significance layer. The major disadvantage is that the narrative value, the educational and relative artistic value, become more important and ultimately overrun the functional values, identity values, or the economic values that do not result from tourism. Museumification or museification is a mummification of heritage: it keeps the substance intact but empties it of all life and functional purpose.

For wooden buildings there are other attitudes that, if taken to the extreme, can significantly reduce the authenticity of the place. One is replacing undocumented buildings with "**twin copies**" of existing buildings that could fit on site, generally justified by the continuity of the building techniques and craftsmanship. Taken to the extreme, this attitude can generate forms without content, buildings that are not needed and cannot function in the context of the modern city[527]. A second example is moving the properties from one site to another site by dismantling the wooden structures. This has been done historically and is part of the tradition of working with wood[528], but it always had some functional justification. For historic structures that belong to a place, to the collective memory of the place, to be removed from the site and relocated without significant justification would result in loss of authenticity for both monument as well as its contexts.

There are also some threats that, although apply to any historic urban landscape, and cannot be analysed as a problem typical for the Finnish or wooden historic urban landscape, are often overlooked as they do not seem relevant for the conservation plans. Somewhere between conservation problems of the historic areas and development problems of the growing city, these threats are often left in the care "other professionals" and outside the management plans.

[527] It is the case of the "twin outbuilding" from Røros, which initially had no function considered. The main purpose of the project was to use the expertise and craftsmanship of woodworking on a building that would not serve any contemporary purpose: create a museum object.
[528] This concept is further developed in Chapter 3, in the section Wood as material and element of specificity

Image 35. "Venice is not a hotel!" demonstration 2008. Source: Is tourism ruining Venice? www.telegraph.co.uk

In terms of learning from mistakes, the best example of a nearly museified city is that of Venice as it was presented by Pierluigi Tamburrini[529]. The reason for the museification of the city is the disappearance of the local community fuelled by the growth of tourism, which recorded a number of 50.000 individual tourists per day, amounting to a total of 20 million per year. By 2010 there were 60.000 citizens in Venice, a significant decrease from 1952 when there were recorded 175.000[530]. It was listed as a World Heritage Site in 1987[531]. It is a significant comparison, because Venice was *museified* under touristic pressures mostly following its enlistment, in spite of the strong emphasis placed on its cultural heritage and intangibles. Venice is an extreme example of conservation of integrity and material authenticity coupled with complete loss of social and cultural values, gentrification and prevailing dominance of tourism over all other activities. This museum exhibit has not been preserved as an historic urban entity"[532] At the extreme opposite, the city of Varanasi retains its cultural and spiritual significance but none of the historic urban or architectural fabric still exists. It is a spiritual place without an intact historical physical embodiment, therefore completely lacking physical authenticity and integrity. In spite of this, Varanasi, unlike Venice, "retains its values as a historic city and spiritual centre"[533]. It suggests that functional variety, ebullience and maintaining a traditional community of users on site, protected from market pressures, might help decrease the effect of '*museumification*' and implicitly loss of social and cultural values.

Fragmentation as a result of defining borders, the problem of "sectional thinking", is linked to the different regulations and protection policies applied in different areas which should be perceived and work as a whole. For World Heritage Sites, although the protection area and its buffer zone have different historic value and significance as cultural entities, they should integrate

[529] Tamburrini, Pierluigi. "Menace", Continuité 126 (2010) 44-47
[530] Ibid.
[531] Venice and its Lagoon. Advisory Body Evaluation. 1987. UNESCO available at http://whc.unesco.org/en/list/394 last accessed November 2014
[532] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p71
[533] Ibid.

within the same urban network of the contemporary city. The historic urban landscape often[534] extends beyond the protected area of the WHS and into the buffer zone, and should be perceived in continuity. The proper integration of all areas in the town planning and development plans can alleviate or avoid fragmentation altogether. It is important therefore to assess whether the managed historic area or sections of it are under threat of becoming isolated, a historic fragment fundamentally different from the rest of the city and its environment.

The loss of existing values through excessive and **intrusive development**, especially high-rise buildings, and out of scale buildings, are a matter of concern for most world heritage sites where the centre of the city is under pressure from development investments and vertical densification. For Finland, and Old Rauma this is a particularly sensitive issue given the pragmatic nature of town planning and the already established precedents[535], and especially when the values of vistas and townscapes are not being acknowledged. This affects mainly the buffer zones which do not benefit from the same level of protection or impact assessment as the protected areas. It is important therefore to extend the threat analysis beyond the immediate boundaries of the designated protected areas, and take into account all areas of influence. **Out of scale** buildings or functions inserted in the historic area or having an impact on the historic area can be considered equally as threats.

Increase of motor transport and traffic leads to the subsequent cluttering, and vibrations from traffic. Undesirable traffic flow within the historic areas decreases the quality of the touristic experience, and lowers the authenticity in setting and atmosphere of the place. The relevance of traffic for the historic area should be considered for every case: as will be shown in chapter 6, for Finland's historic urban landscapes, traffic is not equally relevant. In Uusikaupunki the automobile industry and the industrial layers have become part of the relevant history of the place, and as such the automobile and the traffic associated to it can find some kind of justification. For Old Rauma on the other hand, traffic has always been an issue threatening the integrity and coherence of the dense core. There have been several attempts to remove traffic from the historic protected area, and most users identify car traffic as being the worst problem of the site.

Another often overlooked threat is change: change in the economic, commercial, social, functional -modern, less compatible functions- **microclimate of the historic area or its surroundings.** In Finland as in other countries of Europe, one of the main threats to heritage are the requirements of contemporary building codes. This threat is less evident in World Heritage Sites where the amount of changes brought to a site is reduced to a minimum. For the rest of the monuments, although most of the quality indices are not required, or applied retroactively, for historic buildings, they impede future changes and adaptations of historic buildings; sometimes additions made to historic buildings lead to the whole ensemble being considered as "new building" that would need to fulfil the requirements of contemporary building codes. This limits and curtails the re-use of historic buildings. Management plans should provide tools that can alleviate the impact of change and fluctuations in resources, can anticipate and ease the effects of various occurring shortages.

Among the threats from the intangible components associated to historic sites, the most notable is the **population growth and change of the demographic structure. Gentrification**[536] is a shift of the urban community which leads to changes of the demographic structure and ultimately

[534] It is the case of the historic urban landscape of the Røros Mining Town and the Circumference.
[535] Chapter 6: Old Rauma risk assessment looks at buildings out of scale both horizontally as well as vertically.
[536] Concept defined in Chapter 1.

brings changes to the fabric of the town. Population changes, both in terms of growth as well as structure, add pressure to the historic built environment, by increasing the number of inhabitants within a building, by increasing the pressure and demand for new buildings.

The **loss of traditional activities and intangible values** linked to the site is a major threat to the authenticity and overall maintenance of values in a World Heritage Site. As traditional communities are displaced by gentrification, traditional activities and the whole complex of intangible components associated to them disappear. Especially when the intangible values are not listed or considered as part of the O.U.V. of the site, are not be regarded as an essential dimension of the site, they are at risk of disappearing.

Impact assessments[537] are generally important for management plans, and as stated, there are many models that consider the management process starting with a research of the impact various decisions may or have had on the site. The impact assessments usually point out the weaknesses and unexpected problems that can result from implementing different measures. As such, they are excellent tools also associated with the risk assessment process[538]. From the perspective of the Finnish wooden town, some phenomena can be linked to particular threats, and therefore the impact of several planning measures could be considered. Impact assessments are continuous processes designed to aid in the evaluation of possible effects of interventions within the given area. They need to identify the challenge, involve public consultation of the stakeholders and be designed so that it would be possible to review all options of implementation. A cost and benefit analysis is often used to discriminate between similar solutions. Since impact assessments seek to be objective, they require a clear quantitative analysis of some parameters. Quality is easier to assess comparatively when expressed in relation to quantifiable criteria. This process also limits the flexibility of the process. It is important to identify the indices to be followed in the impact assessment.

One is the impact of defining and publicly recognising the protected area, its borders and most valuable properties within it. This can easily lead to real-estate speculation, artificial rise of property value, and ultimately gentrification. The impact of establishing and promoting hierarchies between properties within the site may lead to the unrest and dissatisfaction of the local community, but may also improve the life quality of specific areas by celebrating the quality in maintenance and conservation policies followed by the members of the community.
Generally speaking the impact of establishing borders and applying different conservation and development strategies for neighbouring areas needs to be analysed. Fragmentation of the urban structure may occur along administrative lines, especially when different measures apply in neighbouring areas.

It can be generally relevant to address the impact of implementing some of the measures specified in the action plan. Since the action plans and implementation strategies are part of the next phase of the management plan, there is a tendency to separate impact assessments and risk management from the rest of the management plan. The environmental impact assessment has its origins in the 1960s, as increasing environmental awareness has influenced the way in which impact assessments are defined and used. However, given the complex economic and political structure of the analysis it is not a task that the conservation architect can take upon himself. As a

[537] "Guidance on Heritage Impact Assessments for Cultural World Heritage Properties." 2011. Paris.
[538] Idem, p.12, " The HIA [heritage impact assessment] report will need to show n assessment of the risk posed to the retention of OUV and the likelihood that the property may be in potential or actual danger."

result, in the present research a few characteristics relating to the objective and general structure of an impact plan for Old Rauma will be listed, but no actual impact plans will be proposed.

The plans for **disaster and hazard** mitigation are part of the risk assessment and risk preparedness[539] phase[540]. Taking into account all possible force majeure situations: heavy rains, heavy snows, high winds, fire, unusually aggressive storms, earthquakes, natural disasters, floods, is an important step in creating effective risk management plans. However, developing risk management and preparedness plans does not completely eliminate the risks - it prepares the users and community for their occurrence and can significantly reduce the damage. The plans may include and regulate **the disaster drills** for hazards with the greatest probability of occurrence and which are estimated to produce most damage. Fire and flooding drills should be considered a priority for Finland's historic wooden towns.

Fire protection plans, including fire drills organised on a regular basis should improve the time response and the efficiency of the fire protection methods. It is worth mentioning that organising fire protection drills will not guarantee saving the property in case of a fire, but it may greatly reduce the damage. In the United Kingdom[541], risk preparedness plans and fire drills together with properly trained personnel contributed to saving valuable collections and heritage from fire. It is important to assign and train a **disaster response officer** together with an alternate, known to the public. This is a component that must also be clearly stated in the fifth part of the management plan, where the responsible people and authorities are clearly delineated. The officer should be the one capable of responding on a very short notice in case of disaster and capable of managing volunteer and salvage teams.

4. How to maintain what matters and avoid the problems.

The fourth component addresses the needs of the site and the desires of the stakeholder. IT refers to strategic planning, one of the 3 key processes that need to be included in any Management Plan according to UNESCO[542]. Considering the conclusions of the second and third stages, in the fourth stage it should be apparent what are the values and characteristics that should be maintained and protected, and what are the threats to the site -including risk and hazard prevention. The fourth stage looks at the tools and sets of good practices at hand, sets goals in order to satisfy a coherent vision on the site's evolution, while preserving the meaningful and avoiding what is harmful. It is one of the most difficult stages of the Management Plan, as often the protection of some identified values threatens other values or layers of significance. Alleviating one potential threat can potentially cause more harm than good. In this case scenarios of intervention or non-intervention can prove useful. Involving a wider array of stakeholders as well as professionals from various fields, means that heritage conservation can no longer be left in the hands of heritage experts, but rather it becomes an arena for negotiations, with "decisions [...] discussed among counterparts, based on solid arguments and shared goals, to reach compromises"[543]

[539] Stovel, Herb. 1998. Risk Preparedness: A Management Manual for World Cultural Heritage. ICCROM.
[540] Risk Management at Heritage Sites: A Case Study of the Petra World HEritage Site. 2012. Paris, Amman: UNESCO. http://icorp.icomos.org/images/documents.
[541] Macalister, Fiona. Risk reduction – preventive measures. ICWCT 2012. Presentation 23.06.2012; Kidd, Stewart. 2005. Fire Safety Management in Heritage Buildings. Edinburgh: Historic Scotland.
[542] the three processes are planning, implementation and monitoring: UNESCO. World Heritage resource material. Managing Cultural World Heritage. 2013 p.54
[543] UNESCO. World Heritage resource material. Managing Cultural World Heritage. 2013 p.21

A clear definition of a common vision and objectives for most -if not all- the stakeholders is imperative at this stage, as well as prescribe a set of economic, social, cultural or political measures that would facilitate their achievement. A set of good practices can be defined at this stage, considering the connected social, cultural and economic factors that define the site. For World Heritage Sites, as well as for sites of higher national importance, considering the heritage resource for the touristic industry is important at this stage, as it can highlight several needs or threats to the site. At this point prescriptions, recommendations, conservation principles and techniques in relation to the site's buildings can be provided. The conclusions of this stage can be used and integrated in Master plans.

In the aggregated management plan, the operational and strategic phase includes the prescriptions and recommendations for the protection and conservation of the historic site. It is the most ample and complex phase of the plan that defines all **objectives and directions of actions** for the management plan, so that the identified values can be maintained and enhanced, while the threats are mitigated or eliminated. In Finland, several components of this strategic phase are currently included in the Finnish town plans.

The statement of **management aim and vision** usually define a general direction of change as well as a value ranking. The vision is considered for most historic urban landscapes in Finland, although not always integrated with the town plan. The vision of the management plan should be stated clearly, emphasizing a particular characteristic of the site or the development of the site in a specific direction. The vision should take into account that the first **objective** of the management plan for World Heritage Sites[544] is the protection of all cultural values and resources and if possible the **enhancement of identified values**: safeguarding and maintenance of all cultural values. The maintaining the authenticity and integrity of the site must be another objective, but for historic urban landscapes the issue of significance could be considered primarily.

[544] The Operational Guidelines for the Implementation of the World Heritage Convention. 2013.IIF. Art 96. Available at http://whc.unesco.org/archive/opguide13-en.pdf last accessed January 2014.

Figure 23 Strategic planning

Sometimes historic centres sacrifice part of their authenticity and integrity to accommodate the augmentation of their educational values, touristic potential, bring new uses and functional dynamics to the area, exploiting of a particular resource of the area. **City Branding,** although presenting specific threats and potential irreversible damage if improperly employed,[545] can be used to revive urban communities, often transforming locally relevant places into international attraction centres. Although it may be relevant from an economic standpoint, city branding should be considered thoroughly, as it may have a number of underlying negative effects. For Finland's historic wooden towns, it may disrupt the life cycle and authenticity of the place. Not all communities have the dynamism and flexibility that Porvoo has proven, and some of them might be better associated with slow development: slow cities as Kristiinankaupunki. In both cases city branding is important, but the techniques and communication strategies involved are different.

The action plan should be designed, identifying how and when actions will be taken to implement the conservation policies. It should also include management protocols to address specific management issues. For example, if a place contains very fragile and unstable fabric, a

[545] Ashworth, Gregory, and Mihalis Kavaratzis. 2009. "Beyond the Logo: Brand Management for Cities." Journal of Brand Management 16 (8): 12 of 520. http://www.territorioymarketing.com/wp-content/uploads/2010/12/beyondthelogo.pdf.

protocol may be developed that limits the number of people who can access the place over a period of time.

Strategic plans should be devised according to the time length needed to properly assess the results in a long-term: 5-30 years; medium term: 1-5 years; and immediate: up to one year. Strategic planning links to the feedback system: maintenance plans should assessed more frequently - yearly, bi-yearly depending on the maintenance measures, while strategic development plans, reviving intangible values associated to the site, empowering communities can take years before they can be accurately assessed. It is therefore important to set and define an operational timeframe for both the implementation as well as for the assessment of actions.

Considering the nature of the historic urban landscapes, the strategies contained in a management plan could be organised roughly in three groups, dealing with: the physical cultural heritage in terms of both conservation and development, the intangible aspects and values of the site, the research, innovation and means of disseminating and recording information. All of these receive similar pressure from the three major directions: conservation of the existing, development in terms of new layers and tourism.

The strategies for **the conservation, preservation, rehabilitation of tangible heritage values** can be established and proposed only after the recognition of the site's values and acknowledgement the risks. These strategies are equally based on the analysis of the dysfunctions, damage and decay and risk factors identified on site.

Defining guiding principles and policies behind conservation is important for wooden historic urban landscapes because it underlines the necessity or the tolerance to changes and replacements of the original substance. Furthermore, common language and principles need to be implemented and respected internationally, as a series of terms such as "restoration" can refer to different intervention measures in different cultural areas. For Finland, it is important to define a set of common terms that can adequately translate the international concepts. Otherwise there is a need to define all the concepts related to the object, its attributes and values, treatment and intervention principles, in order to avoid confusions.

Establishing **hierarchies of values, treatments and authenticity** in relation to the general vision of the site is important in order to mitigate conflicts in conservation. This step is somewhat similar with the C.H.I.P. model that prioritizes cultural environments in relation to a chosen theme – the vision of the Aggregated Management Plan. These may already be defined at the end of the second phase of the Management Plan. In some cases, documented in Røros or Gammelstad, Lulea, the option of using some area of the property as a museum exhibit of a particular relevant moment in the town's development, allowed a higher flexibility and adaptation of the other properties to contemporary life. At this point the objectives for the protection, conservation, restoration plans should be clearly stated **as actions** to be taken. During a lecture for the "The 15th International Course On Wood Conservation Technology - ICWCT 2012", Sarah Staniforth suggested that conservation and protection relates to a greater degree to the threats identified for the site or object and their mitigation than to the identified values. There is no point in trying to fix something which is not broken, therefore conservation and preservation refers mainly to eliminating the possible risks rather than to enhancing the values.

Proper documentation of the **before, during, after intervention** state of the site is useful for both present day assessments as well as for the studies on the effectiveness of various conservation materials and techniques. In most cases the documentation before the intervention receives most attention, as it is used to justify the subsequent actions and projects.

Documentation during the process is often lacking in Finland if the process is not specified by law – public consultation for example is enforced by law. In some cases, especially when funding is discontinued during the implementation of conservation or development actions leaving the intervention incomplete, the "after" documentation cannot be carried out. In most management projects the best documented phase is "before" the interventions, which makes it difficult to establish a coherent cycle including the feed-back.

A complete and elaborated **conservation master plan** should be accompanied by **working plans** on a long and medium time span, which will improve the control and the monitoring of the ongoing actions and also minimize the impact of funding cuts. The alternatives to the **actions to be implemented,** analysed by appropriate experts, are useful for the impact assessments. For archaeological sites for example as well as for wood conservation, it is important that conservation procedures are completed; otherwise, the structural integrity of the exposed components can be compromised.

The nomination of a conservation architect on site can prove very useful, especially for World Heritage Sites. The conservation architect ideally possesses "basic and practical experience as general architect, knowledge and understanding of early building technology, the ability to read and interpret the historic layers within a building (original traits and latter additions), should be able to be a team leader for all the members of the conservation team, possess good knowledge of architecture periods and styles, contemporary building practice, understand building pathology, especially orientated on wood and timber decay, foundations and masonry, possess good knowledge of the history of technology of the craft. The conservation architect should be able to bring together and coordinate the work of experts like engineers, art historians, and architects"[546].

Again, specified through the Management Guidelines for World Heritage Sites, and missing in most models for WHS assessment and management – the necessary conservation facilities such as: documentation centres: libraries and archives; facilities for editing and elaborating documentation: cad drawings, image processing; craft shops for small object treatments; conservation labs – are optional but should be considered. For Wooden World Heritage Sites maintaining the traditional building techniques is paramount for the conservation of the historic substance. Providing the appropriate facilities, ensuring the necessary workshops, schools for professional training and a bank of spare parts is essential for maintaining the material authenticity of the place.

Elaboration of the maintenance plan of the site is very important for the conservation of heritage values, as it has been noted[547] that usually a policy of constant maintenance and minimal intervention can be more efficient and cost effective on a long term. Any maintenance plan starts by considering the level of **minimum appropriate maintenance**: considering the site's significance and values, the needs of the users, climatic conditions and rhythms of decay for sensitive components. This is especially important when dealing with wooden structures. The **monitoring procedures**, cyclic supervision actions according to the sensitivity, exposure and decay rate of

[546] Feilden, Bernard, and Jukka Jokilehto. 1998. Management Guidelines for World Cultural Heritage Sites. 2nd ed. Rome: ICCROM. p.52

[547] According to English Heritage under Maintenance and Repair: "Modest spending on regular maintenance can reduce the need for costly repairs, protect the fabric of your place of worship and save you money in the longer term", idea quoted in a number of publications such as: Maintenance plans. Repair grants for places of worship in England; Maintenance plans. Grants for Historic Buildings, Monuments and Designed Landscapes. Available at http://www.english-heritage.org.uk/

different heritage components, ensure that the minimum maintenance measures are carried out in time and in accordance to norms. The **cycles for updating the maintenance plans** ensure the feedback from the maintenance work: the scheduled routine work carried out on a daily, monthly, seasonal or annual basis according to the site's needs, and based on how often inspections need to be made. The regular **maintenance works** should be carried out by different stakeholders: owners, site managers, but the site manager can set a procedure to control that maintenance is carried out in time and also could fall in agreement with the responsible stakeholders on the best measures to be taken in case maintenance is not or cannot be carried out. The **frequency and procedure of feedback from responsible stakeholders** and **site inspections** should be established and supervised by the conservation architect to ensure the maintenance is carried out appropriately.

The strategies for **future development** analyse the opportunities, possibilities, scenarios and needs of the site and users. Development in the sense of building investments, new insertions, new constructions usually concern the buffer zones, but can in some cases affect the protected areas of World Heritage Sites. In Finland changes of function as well as town planning measures in general are covered by the town plans.

The **objectives for the development plans**, insertions and studies of potential development are usually stated in the Finnish town plans. However, the proposed development **actions** are not usually accompanied by the analysis made by appropriate experts in accord with the established visions and objectives, but they are mostly compliant with politic and economic interests. The **scenarios of development** following the given trend or vision are useful for the impact analysis, but in Finland these have been carried out mostly for Uusimaa[548]. The main difference and advantage of the management plans over the town plans is that the former can include an analysis of **alternatives for development** consulting various appropriate experts. Impact assessments are seldom elaborated parts of the Finnish town plans, although various scenarios for development are presented and discussed with the competent bodies and stakeholders for each major development plan.

For a historic area it is important to consider the **need for insertions, new structures and facilities** and strategies for their construction within the protected area and buffer zone. Unless it is a designated museum area, every urban area presents a level of flexibility and adaptability to change which can be outlined.

Acknowledgement of **site as touristic resource** deals more with the promotion and interpretation strategies. However, touristic exploitation of the heritage resource requires some modifications and building of additional facilities which inevitably impact the site. Visitor management and appropriate marketing touristic analysis, should be aimed at minimizing potential damage from increased number of visitors **-wear and tear-** and enhance the interpretation of the site as well as the economic value of the region. Among the useful information there is the maximum number of annual visitors – tourism carrying capacity-, preferred visiting seasons, minimum required facilities in relation to the forecast number of visitors. When considering historic sites as resources for the touristic industry, it is important to accurately identify the **tourism target groups** and profile the different types of tourists, their needs and their behaviour. The **visitor management plans** can help establish and define a system

[548] Uusimaa 2035 Scenario Project. UTU 35. 2004 Uusimaa Regional Council and Edita Publishing; Uusimaa 2020: kurkistuksia tulevaisuuteen. Uudeman Liito . Pääkaupunkiseudun yhteistyövaltuuskunta YTV .1997. Helsinki

of multiple heritage resources with the capability to distribute and equalize the tourism pressure if needed. In Finland visitor management plans are not a common practice, therefore there is no historic urban landscape that benefits from this kind of analysis do far.

In theory, the required **specific tourism related facilities**[549] depend on the visitor's typology, which can be taken as a starting point or can be listed as a "desired target group". In Finland tourism is not analysed at the level of the historic urban landscape, but rather at a national scale through the national statistics or considering tourist attractions such as museums. It is generally acknowledged that visitors fall into different categories with different needs[550] but the information is mainly used to get a general picture of the touristic activity and interests throughout Finland rather than analyse the attractiveness and potential of different historic urban areas. Marketing strategies can focus on attracting and addressing specific tourist groups, and usually the facilities: number and standard of hotels, hostels, campsites, restaurants, transportation means, and specific shops, consider the main types of visitors. It has been established[551] that the aspects most appreciated and which answer most of the visitor's needs are: a friendly welcome, well trained staff, a litter-free environment, guidance on local culture and highlights, presentation of the story of the place, security and protection, however, these considerations are not taken into account on site or for town planning. In Finland, touristic issues are contemplated by individual business owners or organisations but almost never at the scale of the historic urban landscape and considering its tangible and intangible dimension.

In relation to acknowledgement of H.U.L. as a touristic resource, the **promotion, communication and marketing strategies** are vital components of the management plan, including concerns such as the presentation and interpretation of the site. It is important to make sure that the important values, significance, outstanding universal value, authenticity of the site are being made public connecting tangible and intangible characteristics in a manner that everyone can understand, ensuring the **legibility**.

Perception is a very important factor to be considered especially for World Heritage Sites. It relates to all the values of the sites, as well as to concepts like authenticity, legibility and understanding of the site, integrity. Perception is, of course different for each stakeholder category: user of the site, tourists and visitors, professionals, administrators and so on, and should be analysed consequently. In Finland's wooden historic urban landscapes, perception is not generally analysed and exploited in order to ensure a better communication strategy, as feed-back from stakeholders is seldom collected and analysed.

The **promotion strategy** should be built according to the already defined vision and mission, at this point completed by shaping the "image" and identity of the site. In promoting the site, it is important to **use those modern technologies** and promotion techniques that are most appropriate for the main **target audience** and their interests. In some cases different audiences require different and specifically tailored promotional strategy. Generally, **the media used** to distribute information should cover all categories of users, and may include written materials: *guidebooks* written for different types of users, distributed on site, in bookstores, articles in magazines or newspapers. This is achieved for Old Rauma, but none of the other historic urban

[549] referring mostly to: information points, visitor centres, public toilets, restaurants, hotels, public areas, event areas, shop marks and street signs, etc.
[550] "visitors" are generally the day visitors, "tourists" are the ones who stay overnight, but there are also people on tours, vacationers, school parties, conference delegates, visiting experts and so on
[551] Feilden, Bernard, and Jukka Jokilehto. 1998. Management Guidelines for World Cultural Heritage Sites. 2nd ed. Rome: ICCROM. p. 99

landscapes of Finland benefit from this type of promotion. Nowadays, employment of social media can prove extremely valuable when trying to reach certain target groups, and the importance and impact of online information and modern technologies should not be neglected. An increasing number of users have access to modern technologies and could make use of phone and tablet apps presenting the site.

For World Heritage Sites the **interpretation** of the site is a very important aspect that allows communicating and illustrating the significance and value of the site to the majority of its users. It is part of the crucial "enhancement" of existing values specified by UNESCO's Operational Guidelines[552]. The strategies for **a better understanding** of the site target all the stakeholders on site and off site. **The staff** and people working directly with the site should be properly informed on the values and significance of the place since they are the ones mediating the relation between the site and its visitors. **The property owners and other direct users** should be informed on site of the characteristics and attributes of the place, in order to increase the engagement of the community and increase the efficiency of the maintenance plans. **The visitors** should benefit from information provided both on-site and offsite, especially since their visit may be restricted in time. Raising awareness and informing the public at large of the characteristics and resources of a place cannot be done solely in a physical manner. Virtual presentations, models, tours visualization of properties and resources can allow access and focus on the desired aspects of the site. Especially for historic towns where privacy and accessibility reasoning prevent access to areas, buildings or interiors, virtual tours and online information can complete the on-site experience.

Accessibility of the tangibles for those users mobility impaired should also be considered. In Old Rauma street paving in the protected area significantly restricts access for people with mobility impairments. In terms of communication strategies and dissemination of information, it is important to ensure access to information to all possible users of the site, including those with visual or hearing impairments. Especially for the onsite museums and information points, exhibits should be made available to ease the interpretation of the site for all categories of users by means of **models, samples of building materials, tangible exhibits, sound exhibits and listening posts** that would ease the understanding of the site for all. In terms of signal posts and notice boards it is generally recommended to provide **signs** throughout the site, especially around interest points including maps and plans on all entry point and in the places visitors can become lost. However, in most wooden towns of Finland the authenticity of the place can be easily spoiled by an excess of over-sized site signs. In Old Rauma, a study has been carried out with satisfactory results, aiming at reducing the size and frequency of city signs and posts within the historic area. This also related to the road and traffic signs which received special approval for their reduced size. The **on-site signs, notices and boards** should be clearly written, designed and placed so that they would not disrupt the experience of the place or damage the historic fabric.

Human interaction should also be included in the communication strategies, as it is easier to reach and inform certain tourist types through direct contact. Often **guides or teachers** can be used for the whole site, while **first person interpretation** can be used in key places and buildings. **Re-enactments** in historically significant places, on significant dates are also widely used in European open air museums and the practice could be extended for historic towns. Special attention should be given to school children, and children in general as they are difficult to keep

[552] "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines. Art. II.F.96

interested. As future users of the site their involvement in heritage matters is very important. Starting with Old Rauma, Finland has started involving children in protecting heritage by exploring and understanding places. As a method of alternative leaning, the exploration of historic urban landscapes can be included in the management plan as means to involve stakeholders with the site and collaboration between public institutions such as schools and local organisations. At the same time this type of urban exploration can raise awareness and increase the community involvement in historic towns.

Community involvement[553] is one of most important components of the **strategies for the intangibles** – shared responsibilities, but also to re-connecting the physical heritage with its intangible aspects. Since traditions, lifestyles, specific activities linked to intangible heritage cannot exist outside the traditional communities, it is of capital importance to involve the communities in the management process. Empowering communities and reviving traditions starts with **consultations** with community members: property owners, tenants, owners of properties within the buffer zones, shopkeepers and other users of the site should help identify additional values and threats to the site. Consultations should be organized to validate protection, development and different action plans. In Finland public consultation and participatory planning are rightly considered strong points of the planning process. Public consultations also require **the establishment of platforms that would facilitate, encourage and promote** meetings and discussions with the public – users or tourists. According to the profile and structure of the community, these platforms can be virtual, social media, organised as periodic meetings, or even mixed[554] employing both physical and virtual meeting tools.

The strategies targeting the research and documentation are based on one side on ensuring **proper recording and documentation** of all activities and intervention processes and on the other on listing and making publicly available the available research and research resources.
The use of modern technologies becomes increasingly relevant for archiving, storing, recording documentation and data. Managing data both physically as well as digitally is essential for the preservation of a historic site. The modern technologies used for surveying or evaluating a site can greatly reduce the time of the procedures as well as increase the accuracy of the results. The generated data can be integrated and managed using GIS systems - a practice widely used in Finland. A step forward, ensuring the accessibility to the existing databases, archived information and general information is important for scholars, researchers, professionals, conservators. For the general public broader and more general information as well as access to museum information online is more useful, but nevertheless the information provided is based on the same data accurately recorded. Making documentation accessible to different stakeholder groups and defining an access scheme to relevant documents could also be managed by the local authorities through the aggregated management plan. The documentation, gathered and managed in one archive, could have different access levels and clearances for different users if required.

In terms of documentation one of the weak points of most historic towns is the way in which the **storage of information and data**, back-upping and organisation of the information

[553] " Enhance the role of Communities in the implementation of the World Heritage Convention" is one of the 5Cs - Strategic Objectives specified by UNESCO: "UNESCO World Heritage Centre - The Operational Guidelines for the Implementation of the World Heritage Convention." 2013. World Heritage Centre. http://whc.unesco.org/en/guidelines. Art. I.E. 26.
[554] "I Know Where I'm Going"- Remote Access to World Heritage Sites from St Kilda to Uluru Conference. 2011

pertaining to the site is carried out. In most cases information is scattered in a multitude of places without records of existing resources. The historic towns of Finland usually benefit from a section within the local library dedicated to the published documents, reports and studies related to the site. However, without assigning a responsible person for this process, the information is often incomplete.

Process of unification of standards and archival information is meant to ease the development of heritage databases. This can only be relevant if decided on a national or international level: UNESCO would have the authority to propose such a measure. Especially in case of serial nominations, it may be relevant to propose a unified standard under which each of the properties could be analysed and documented. Finland already possesses a well-connected, integrated library system[555], which could be extended to **catalogue and abstract published literature relating to heritage sites**, using UNISIST systems or similar. Documents dealing with policy and research could also be included. This kind of measure can be proposed at a local administrative level, but it needs to be suggested in the objectives of the management plan as a requirement. Employing the appropriate **heritage recorders**[556] with proper knowledge on the newest and most efficient standards of documentations, of the newest relevant technologies in documentation and archiving, able to develop partnerships and connections to documentation centres and work in multidisciplinary teams together with heritage conservators on common defined objectives.

Research plans could be listed and prioritized in order to allow an efficient collaboration with external interested parties. Cultivating relations with **universities**, academic bodies and researchers interested in the cultural resource can prove beneficial for all involved parties. In most cases the relationship is mutually beneficial, as research projects can benefit from larger, more focused teams dealing with different aspects of the site. However, partnerships and projects carried out together with universities should consider the specific of university studies in terms of time frame, funding, and professional expertise.

Collection of all pertinent studies and documentation developed by research bodies in relation to the site would significantly increase the relevance and impact of future studies, as redundant studies can be limited

Creation of **databases of researchers with areas of expertise** and contact details, and annual progress reports for "hot" topics would be especially relevant for World Heritage Sites, but would be of benefit for all historic sites. One of the already mentioned contemporary problems with the conservation and protection of heritage is the lack of qualified or available craftsmen able to repair components following traditional principles and techniques. Contemporary solutions and systems do not meet the needs and requirements of historic building components or ensembles, and the costs of producing a customised solution in a market of prefabricated elements are often too great to be considered viable. The few qualified craftsmen that could take on conservation tasks are not known outside their community and in some cases are not practicing their craft since they are unaware of the general demand on the market. Similarly, the owners of historic houses do not always know who or where to find qualified craftsmen. In Old Rauma, Tammela and the Rauma Museum can provide a list of qualified craftsmen, but most of

[555] Tuominen, Kimmo, and Jarmo Saarti. 2012. "The Finnish Library System: Open Collaboration for an Open Society." IFLA Journal 38 (2) (May 29): 115–136. doi:10.1177/0340035212444506.
[556] Management Guidelines for World Cultural Heritage Sites p.53

the other historic towns in Finland lack a database of heritage professionals and craftsmen. In this situation the aggregated management plan could provide the platform where demand and offer could meet, bringing together the professionals, craftsmen and the heritage owners. This can be a step forward toward understanding and stimulating the economic mechanisms that drive the growth and fuel the city (in the present and in the past) in order to establish a self-preserving, self-sufficient economy of the area.

5. When, at what costs and who will maintain what matters and avoid the problems

The fifth stage cannot be decided or researched at a general level and outside the administrative bodies in charge with the site. In theory it is possible to define the minimum number of responsible people needed to accomplish the goals defined at the previous stage, but the size and typology of the site would also greatly influence these numbers. Funding needed for accomplishing the goals, as well as the funding resources available and legal or taxation tools that can be employed differ again from region to region, not only within the borders of one country. This component is unlikely to function in a top-to- bottom approach, and cannot be described in a general manner. Stakeholders should be involved at this stage according to their reliability and relevance for the site. For World Heritage Sites it is important to establish the legal framework, the institutional framework and the resources[557] available in order to satisfy the set goals, all of which need to be considered and analysed by local responsible bodies.

One of the main problems of an ample management plan, regardless of its structure and typology, is dealing with redundant information. It is therefore important at every stage to establish how the produced information will be beneficial for the site and, more importantly, who is going to use it. Unnecessary or redundant information will cumber the management system, since it needs managing but has no users.

6. The feed-back: Proof of efficiency

The management system has been defined[558] "as a series of processes which together deliver a set of results, some of which feed back into the system to create an upward spiral of continuous improvement of the system, its actions and its achievements." It is precisely this final stage of the Management Plan, the follow-up and feed-back of the implementation stage, which is often overlooked because of lack of funding, or changes in the administration system. The objectives and vision have been defined, actions have been implemented, but more often than not there is no feedback and analysis of the success of the implemented measures in relation to the established objectives. The improvement, functionality and sustainability of a management plan rests also on its ability to improve and grow on its past experiences. A measure of success and the best payback that can be expected from the successful implementation of any management plan is reaching the defined objectives in the given timeframe and within the estimated budget. Innovations and new tools for the communication strategies, for motivating the communities, for raising awareness should be brought into discussion at this stage for future implementation. Conclusions of past development or protection strategies, the analysis of the

[557] resources in the wide sense of the word: knowledge and know-how, whether talking about experts, involvement of universities or itraditional skills and skilled workmen, human resources in general, financial resources and available funding,
[558] UNESCO. World Heritage resource material. Managing Cultural World Heritage. 2013 p.23

outcome of previous implemented plans and projects should be included at this stage, as a basis for future analysis.

There are cases where the implemented actions did not reach the expected results estimated in the Management Plan, or where, because of cuts in the budget plans could not be carried out to the end[559]. The full cycle of the implemented plans and projects is often stopped before the results of unwanted effects are cleared from the site, which makes it difficult for the continuous management and maintenance.

Although this may be a more feasible tool for WHS rather than national or local heritage, mainly because of the emphasis and resources allocated, the data collection and scheduling tools for systematically recording progress on site can be a useful for the feedback and monitoring reports. Auditing tools that assess progress can come in different forms, their complexity depending on the extent of the site.

Trend monitoring, which records changes in the use and visitation patterns as well as quantifiable changes in general, is usually done through National Statistics Centres. In Finland, Tilastokeskus[560] is the statistics centre in Finland that centralises information on trend changes. However, this type of studies are seldom carried out or used in historic sites, although they would provide essential information for the monitoring stage of the management plans.

The monitoring stage has another essential quality in that it reduces the amount of subjectivity regarding certain implemented plans by providing hard evidence. It is also important to establish the relevant indicators that would allow for a straightforward evaluation of the site and help outline trends with ease. These indicators should reflect the realities and needs of the site; they could refer to the deterioration state of the buildings on site, the number and location of unused or underused buildings, the amount and frequency of repairs made on site, the level of attractiveness of public spaces, or any other measure of the success of the proposed interventions. A national statistic study can only provide gross information about the site, especially focusing on the national issues, but cannot encompass all information relevant for a historic site. Most objectives defined through the vision or conservation strategies can have associated indicators helping the site manager to monitor the development and success of the implementation.

From the standpoint of the **Finnish Wooden Towns**, there are a few elements of specificity that need to be taken into account additionally. Most of the Management Plans that have been developed for the historic towns of Finland have their roots in the 1930s or 1960s. Most documentation and analysis frameworks have been completed in the 1980s. Therefore, most of the central ideas reflected in these documents are incongruous or at least incomplete judging from today's perspective. In Finland there has been a predominantly "conventional" approach to heritage conservation, focusing mainly on the historic materials and fabric. The historical substance and its conservation had been considered the cornerstone of protection plans. However, in line with the international developments in both theory and practice, Finland became increasingly concerned by tackling the full complexity of heritage based on the values and cultural significance of places. Some of the general features of the Management Plans that have not been considered important as a general rule are: stakeholder involvement and participation,

[559] The issue of overlapping signaling projects for the WHS of Pompei which create confusion and difficulty in reading the site. Presentation by Tuija Lind for the Planning for Preservation? Open seminar. Alvar Aalto University December 2013.
[560] http://www.stat.fi/index.html

considering the sustainability and long-term benefits of heritage conservation for the communities as well as for the wider environment, considering heritage as a pillar of sustainable development in historic areas, together with the social, economic and environmental dimensions, the double nature of all heritage: tangible and intangible aspects usually come together in creating a living coherent expression. Architects and Urban planners have a biased perspective on heritage, and tend to over emphasise the value of the physical characteristics, which are easier to point out and easier to protect in isolation. Heritage in Finland, as in the rest of Europe, became understood increasingly as union between traditional shapes and communities that live in close relation to their heritage. The relevance of heritage for today's society has become increasingly important in a global society where the specific and the regional have become a sought-after rarity. Historical sustainability can be expressed through historical continuity that has a specific manifestation in Finland's historic wooden towns: it reflects the Finnish soul. These aspects need to be reflected in the protection tools and models employed.

The inherited information and value analysis for Finland's World Heritage Sites needs to be re-evaluated in the contemporary context. Although the basis for a management system has been in place integrated in the town plans, the existing data does not fulfil the requirements of contemporary heritage management plans.

A new management plan, which will be used as a model for WHS in Finland, was made for the World Heritage Site of Suomenlinna, but for the historic wooden towns of Finland the management system should focus on different aspects. The specificity of the historic wooden towns rests on the techniques and materials used throughout the city, lifestyles, traditions and other intangible aspects of the site, preserved to this day.

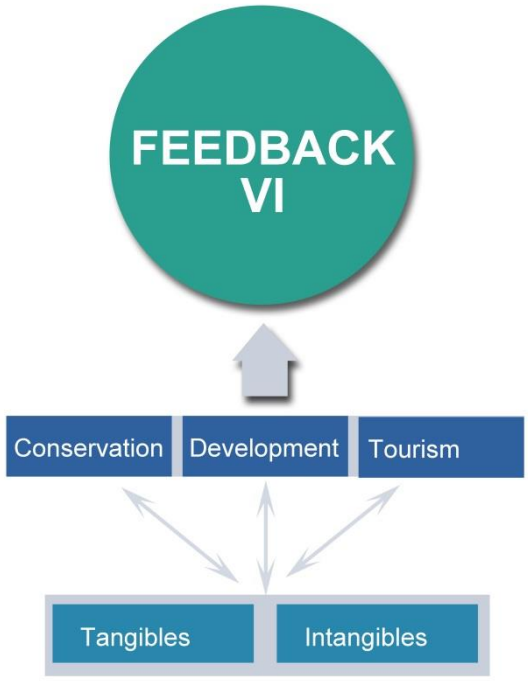


Figure 24 Feedback

The feedback involves in most cases bringing together all parties involved in the management process, and following up on the stated conservation, development and tourism objectives. As with most large scale building projects, management projects should check at fixed intervals or milestones, how the progression of different maintenance or implementation plans is going in relation to the expected results. Management plans are usually expected to have a validity of around 10 to 20 years, but the review and feedback should be based on intervals set according to the functional cycles of the site. For the Historic Wooden Towns of Finland, the cycles of use vary according to the seasonal changes, which would suggest a bi-annual review.

The elements that could be considered when elaborating an aggregated management plan for the Finnish historic wooden towns are as follows:

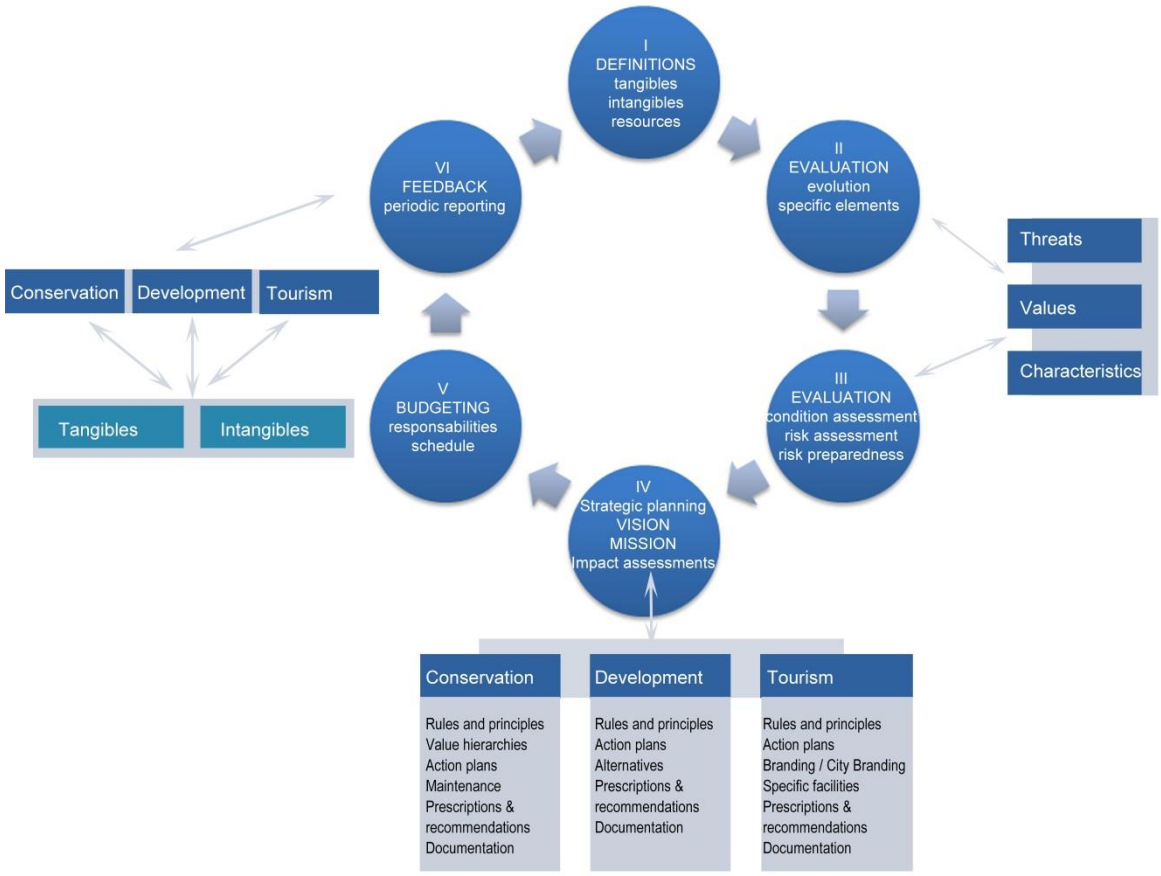


Figure 25: Proposed structure of the Aggregated Management Plan.

Historic Wooden Towns in Finland, as well as in the Nordic Countries present a number of specific qualities and characteristics, analysed in chapters 2 and 4, however a top-to bottom approach based on these traits would prove incomplete for an Aggregated Management Plan. However, a top-to bottom approach attempting to cover the requirements of management plans for historic towns as suggested by the models presented so far, can be formulated in a comprehensible manner. For Old Rauma, which is the main study case of this research, a bottom-up approach focusing on the local specificity will be used to refine the plan.

In conclusion, the aggregated management plan is not a completely innovative tool – it could not be since it uses the same principles applicable to all management plans. However, it is a tool that can be specifically applied to historic urban landscapes, meant to correlate components of an ample analysis and implementation process, link the tangible and intangible components. The analysis required for the assembly of the A.M.P. belong to very different fields, and cannot be elaborated by a singular team of experts – a collective effort would be needed. Through an A.M.P., components from different areas of expertise can be linked and correlated. A brief summary with the conclusions, recommendations and observations for each of the analysis plans is important in order to reduce the operational volume of the plan. The integrated management plan can be embedded in town planning, whereas the aggregated management plan cannot. On the other hand the A.M.P. can reach a degree of complexity and correlation between components allowing for the most holistic approach a H.U.L. requires.

For the following chapters it is important to establish the applicability of the proposed management plan model for the Finnish historic urban landscapes. One of the first issues that need to be clarified for each of the study cases is the definition of the place as a Historic Urban Landscape. This means defining values, characteristics, attributes and specificity so that the "*genius loci*" would become apparent. The top to bottom approach, setting the general context for the Finnish historic towns, can only partially provide answers. The ""*genius loci*"", as previously defined, is bound to the place and can only be uncovered through a bottom-up approach. The Finnish specificity is relevant, as well as the impact of the materiality of wood on the Finnish Historic Urban Landscapes –the "wooden towns".

CHAPTER 6: THE AGGREGATED MANAGEMENT PLAN OF OLD RAUMA

The present chapter focuses on the Aggregated Management Plan for the Historic Urban Landscape of Old Rauma. Old Rauma is a special study case in terms of formulating an Aggregated Management Plan. First of all because its Outstanding Universal Value is considered to be encompassed in the SoOUV -Statement of Outstanding Universal Value- required by UNESCO, and the protection policies revolve around maintaining the O.U.V. It is considered[561] that the specificity and "*genius loci*" of the place has already been established by specialists in the 1980s[562] as "an outstanding example of the traditional wooden architecture and urbanism in this part of Europe, and one of the most beautiful and extensive of all those that have survived to the present day"[563]. Objectively, its specificity therefore lies on the tradition of wood usage, wood building techniques and means of expression specific for the Nordic Countries, on the type and evolution of architecture, on its urban structure that is extensive and intact. The authenticity and integrity of the site are attributes that qualify the values of the place to be considered "outstanding". According to its SoOUV -Statement of Outstanding Universal Value- Old Rauma is "as an outstanding example of an old Nordic city constructed in wood, typical of the architecture and urbanism of old North-European cities". However, this is an approach that considers mainly the tangibles, pointing out that Old Rauma is just like any other historic city made of wood from Northern Europe, but more beautiful, integer and better preserved than all the others – which is why it has been chosen as a promoter of its type. Old Rauma is not defined as a historic urban landscape, its intangible values and characteristics are "implied" and not clearly identified. Therefore, the "*genius loci*" cannot be uncovered and presented following this line of thought: it can only be uncovered from a bottom-up type of analysis. The specificity of the place cannot be uncovered starting with the assumption that Old Rauma is the "best preserved example of the typical wooden settlements of the North", since the "*genius loci*" has little to do with the "typical" at a universal scale. To understand Old Rauma one must look at how it came into existence, how it evolved and what makes it so special and different from any other place rather than to look for what makes it typical. "*genius loci*" and specificity are found where tangibles and intangibles meet, when the site is analysed and considered in its complexity as a Historic Urban Landscape.

In terms of conservation and evaluation, another aspect to be considered is how the theory and our definition of value evolved in time. In 1991, when the site was listed, many elements of value and specificity were not given much thought. The changes in perception are clear when confronting the professional studies on the most valuable aspects of the place with the attitude of the local residents. From a professional perspective, industrial layers and natural components were not highly regarded as valuable: in 1991 there was no criterion allowing the Canal to be protected together with the rest of the historic town, and there was no concept of "historic urban landscape" to bring together the complex array of attributes essential to Old

[561] Old Rauma's nomination documentation available at http://whc.unesco.org/en/list/582/documents/ last accessed April 2014
[562] The elements of specificity, authenticity, integrity as well as the Statement of Outstanding Universal Value have been analysed amd established before the site's nomination and enlistment in 1991.
[563] Ibid.

Rauma. From the perspective of the user, there is a clear differentiation between generations as to what is valuable on site: older people consider the buildings being more **valuable** than any other urban or social component although they acknowledge their personal attachment to the community. Younger users feel that the whole ensemble, together with the streets and atmosphere is what holds most **value** but for them the idea of community is not that important. Our concepts and understanding of values change over time, from both professional as well as the users' perspective. In order to be able to preserve what the current generation values, specific tools are needed to objectively define what these values are in the current context.

The elements outside the already established protected area are controlled and protected through the town plan. This means that another area of significance and protection –the buffer zone- around the protected area could take on the task of maintaining and protecting what is no longer possible through the protection area alone. Currently one of the issues affecting all development and protection plans for Old Rauma is the criteria used for delimitating the buffer zone.

The fringe areas, borderlines and crossing areas between the protected area, the buffer zone and further between the buffer zone and the rest of the city, are also relevant since they define the transition between areas of different character. The buildings and urban elements situated in the fringe areas are the elements of mitigation between different distinct areas.

The proposed tool for both expressing the specificity and reanalysing values of the site, as well as for ensuring the protection and conservation of values and attributes of specificity is the Aggregated Management Plan.

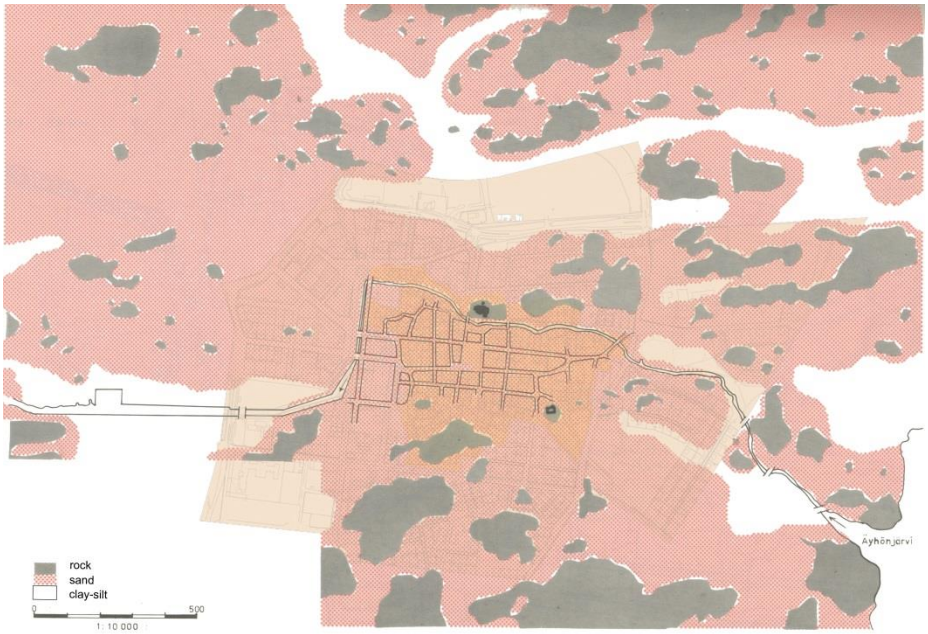
The present chapter contains the main observations and contributions to the management procedure in the Old Rauma World Heritage Site, defined and interpreted as a Historic Urban Landscape. It outlines a possible management approach for Old Rauma considered from the Historic Urban Landscape approach, aggregating existing information and studies with new aspects mostly derived from the shifts in the conservation theory. The aim is to bring together existing information in an attempt to accurately point out the missing elements of the studies, and to provide a holistic image of the changes within the study area.

The present chapter highlights the aspects that need to be considered when looking at the Historic Urban Landscape of Old Rauma, focusing on the key elements that can improve the management process. An integrated management plan has never been developed for Old Rauma until 2014, so the proposed aggregated management plan would present itself as a completely new tool for the site, aiming to improve the conservation and protection policies for this site.

I Description

Geographic position[564]:

Map 36. Old Rauma protection area and buffer zone. Source: UNESCO, http://whc.unesco.org/en/list/582/documents/ last accessed 2014

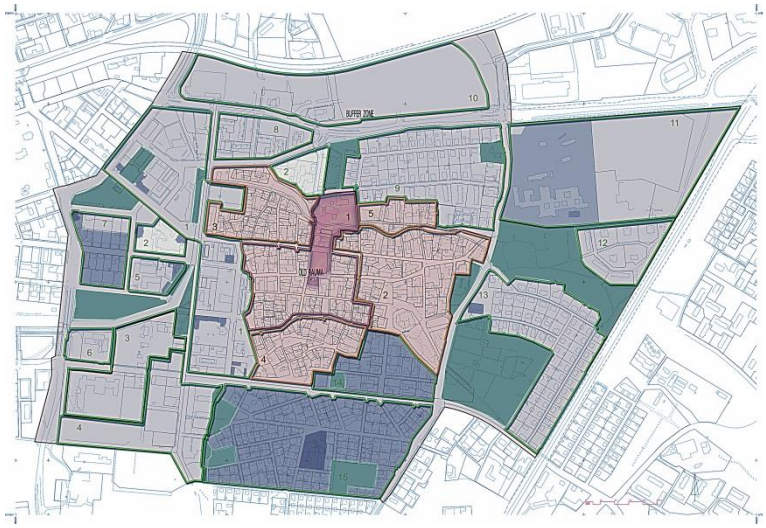


Map 37. Old Rauma's substrate typology. Source: Keskiajan Kaupungit 2:1983

[564] http://whc.unesco.org/en/list/582/ last accessed April 2014.

The Old Rauma historic town has been a World Heritage Site since 1991, the protected area covering roughly the extent of the medieval historic town. It currently spans on an area of ~ 28 hectares, with around 600 historic properties, most of which privately owned. Its position on the Gulf of Bothnia determined its historic relation with the sea and the harbour, which constantly kept moving westwards. The soil for the foundations consists of gravel and sand deposits on top of solid bedrock -this structure conditioning the placement of the tall stone buildings of the site - built on top of the bedrock substrate.

The protection area:



Map 38. Division of protection area and buffer zone.

The protection area was defined considering the historic limits of the town. Between 1626 and 1808, the custom gates controlled the expansion and the limits of the town[565]. The present day protection area contains the oldest and most relevant historic area of Rauma, where the historical layering is the densest.

The protected historic area can be divided into 5 different subzones[566]

Image 36. Some of the most debated additions to the central market: the bank, the market canopy and the building front along Kuninkaankatu (including the façade design by Markus Bernoulli, picture on the right). Picture by Anca Dumitrescu 2011

[565] Pekka, Lehmuskallio, and Tanhuanpää Asko. 2001. Rikas Rakas Vanha Rauma - Old Rauma Near And Dear. West Point. and Lähteenoja, Aina. 1932. Rauma 1600–1721. Rauman Kaupungin Historia II. Rauma: Länsi-Suomen kirjakauppa, jakaja. p 19-32

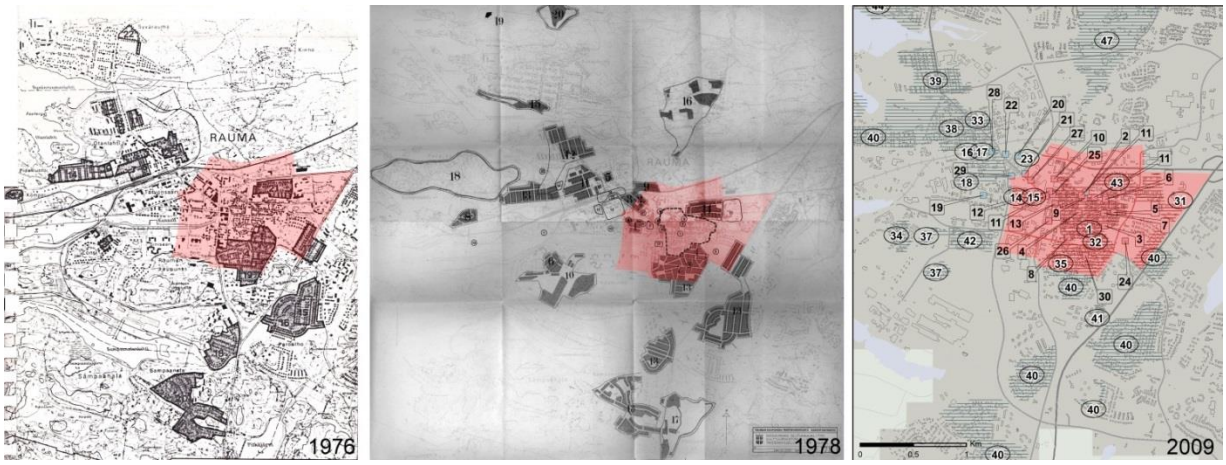
[566] *Vanha Rauma-Old Rauma*.1992. West Point. Rauman Museo. 29. The division of the protected areas and the buffer zone is analysed further in Chapter 6.

according to the typology of the plots, the function of the buildings and the representativeness of the architecture. The first subzone represents the core of Old Rauma, with the main commercial functions, and the representative buildings, the 'eastern customs' area is defined by larger plots, representative housing of rich , while a third area around the western custom gates is characterized by smaller plots and residential architecture with less lavish facades The fourth typological area within the denominated protected area is Naulamäki, with architecture specific for the residences of seafarers and town folk and the fifth area is representative for Old Rauma because of its plot typology. The buffer zone is also divided in 15 different functional areas, all with different character, some of which rooted in the industrial era.

Buffer zones:

The proposed buffer zone[567] is divided in roughly 15 areas of different characteristics. It mediates the relations between Old Rauma and the city of Rauma, and often presents traits of both the town and the city[568].

After the mid-19th century, the town started growing around its historic hard core, expanding inside the areas delineated by the buffer zone. In this period, the housing shortage of the urban area was conflicting with the urban ideals. Most of the urban ideas and changes



Map 39. Neighbourhoods of different character around the protected area. Source: Town plans 1976, 1978, 2009

envisioned for Rauma remained unimplemented because of the lack in funding and housing crisis.

In the late 1970s, early 1980s different development plans were implemented focusing on expanding the urban environment of Old Rauma. There were 21 residential development areas specific for the 20th century, all of which are representative for the residential buildings of the working class. The cultural regions[569] identified in connection to these residential areas as well as

[567] National Board of Antiquities. Finland.2009 also available on http://whc.unesco.org/en/list/582/documents/ last accessed November 2014

[568] As discussed in Chapter 1, within the present research the difference between town and city, mostly for Old Rauma, refers to the delineation between the historic layers formed up until the mid 19th- early20th century, while city refers mainly to the later developed layers.

[569] Descriprion further ellaborated in: "Rauma: Korjaus-, Muutos- Ja Rakentamisohjeita Vanhoille Asuntoalueille." 1983.

to the old town are marked on the 1978 plan.

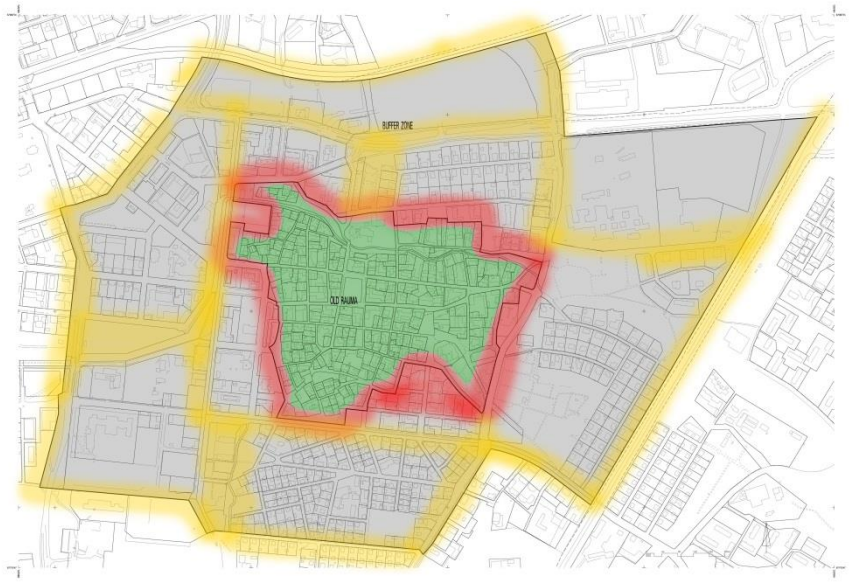
Image 37. Different pavement type in Old Rauma. Picture. Anca Dumitrescu 2012

Overall in the 20th century there was a clear tendency to develop the town on a North- South direction, contrary to the connection between Old Rauma and the sea (east- west)[570]. The 2010 development plans suggested a development on the East- West direction, with the potential to enhance the connection between the historic town and the harbour.

In Old Rauma the buffer zone has been established using empirical methods, based on an area of proximity and considering to some extent the immediate impact on the historic area. It is interesting that the buffer zone contains the functional centre of the city – the one most affected by development pressures and functional changes. However, not all the culturally and historically relevant areas surrounding the protected area were included in the buffer zone: Onnela area, the Nummi area, Kukonkari area, and sections of Pormestarinhaka, Asevelikylä areas are the only areas marked on the 1978 cultural area map included in the present day buffer zone. It is interesting to see how the delineation of these culturally relevant areas changes in 1978 and later in 2009 to include more elements. The canal, the harbour and the natural environment: the sea and surrounding natural areas are completely excluded from all presented analysis.

Rauma; and Satakunnan seutukaavaliitto kulttuurihistoriallinen täydennysselvitys 1978 - . Page 171

[570] Town plans 1976, 1978, see Map 39. *Neighbourhoods of different character around the protected area. Source: Town plans 1976, 1978, 2009*

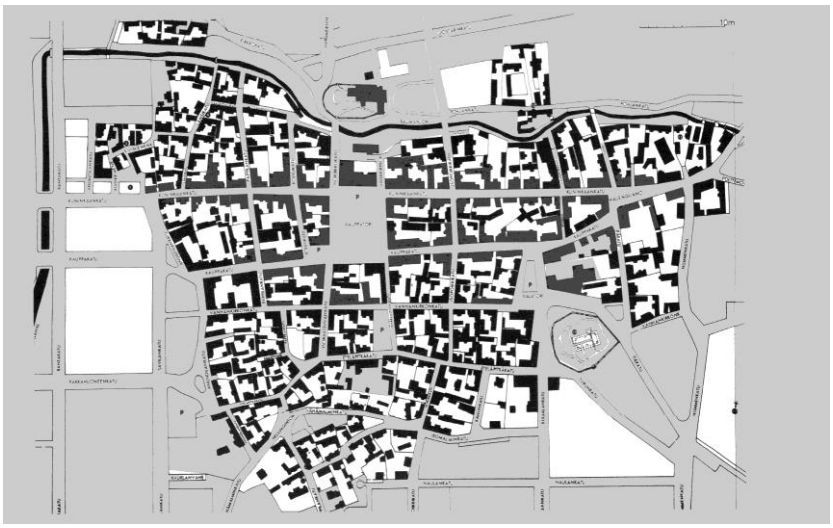


Map 40. Fringe zones: yellow and red, buffer zone: grey around Old Rauma protected area: green.

Fringe zones (Map 40. Fringe zones: yellow and red, buffer zone: grey around Old Rauma protected area: green.) are the transition areas, plots on the administrative border between the protection area and the buffer zones. As the protected area benefits from special protection and conservation policies, it is important to establish an adequate transition from Rauma city to Old Rauma historic area. This transition is most delicate for the properties bordering the streets which define the protected area. The parks, green areas and belts around the protected area and within the buffer zone attempt at negotiating the passage between areas of different nature, but they are not used throughout the fringe areas. Another element of transition is the pavement used on different streets, especially in the protected area. The pavement is used to distinguish between the historic streets, pedestrian streets, main commercial streets and streets outside the protected area. Along the same road, the pavement type can change a number of times, reflecting the status of the road segment. However, the fringe areas where the historic street meets its continuation in the buffer zone, the pavement changes drastically along a sharp line -there is no transition, no negotiation.

Map 41. The oldest structures, cellars and modificationsof the 20th century. Source: Keskiajan Kaupungit 2
Image 38. Different façades toward the inner courtyards in Old Rauma. Picture: Anca Dumitrescu 2012

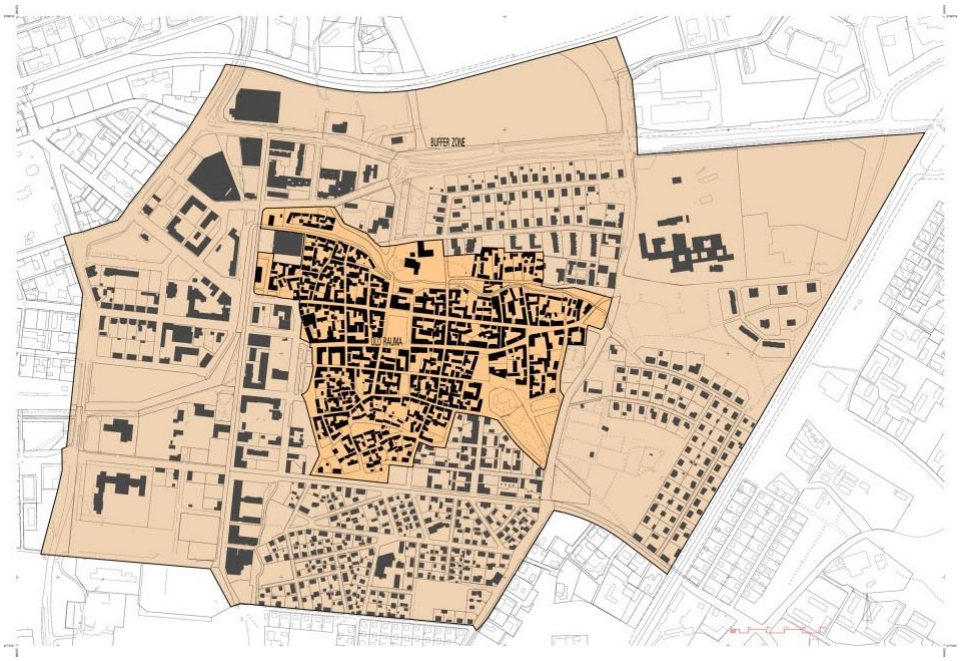
Buildings:



Map 42. Public and private space in Old Rauma. The street and some of the buildings marked with lighter grey are part of the public areas, whereas the building interiors and inner courtyards make the private area. Some courtyards can be considered semi-public, as they are open public access.

Within the protected historic area there are approximately 600 buildings on 250 individual plots. 1682 is the date of the last major fire which prompted the rebuilding of most of Old Rauma's buildings.

Most of the buildings within the protected area have elements of the 18th and 19th centuries in the upper wooden structure. The foundations of most houses are laid in sandy soil, as most of the geological structure of Old Rauma consists mostly of sandy sediments.



Map 43. Granularity: Old Rauma and the buffer zone.

The footprint of the houses, street structure, the foundations, some cellars[571] and even some elements of the oldest buildings can be traced as far back as the 17th century. However, the exterior of most buildings: the cladding typology and material substance have been changing as the styles and community evolved. The original substance of the buildings was preserved in places less subject to development and stylistic development: some inner courtyards, in some cases the facades of annexes and outbuildings situated in the most private or the least accessible areas of the property. The street furnishings, facades and details were the ones to sustain most changes.[572] The building height does not exceed two stories, which in itself is an exception of the 18th century: because of the fire regulations, most of the wooden houses on site have one story. The morphology and urban patterns of the protected area follow the medieval structure. The granularity analysis suggests a division of the area into areas with different plot and footprint characteristics.

Materials used are usually wood for the superstructure and most exterior finishing. The oldest wooden structures are based on the log wood technique, while the facades: windows, panels, profiles have been changed in subsequent periods. Most of the foundations are made from stone, especially for those houses placed over historic cellars. However, the industrial insertions can be identified in some properties where concrete or precast elements are recognizable in the foundations. The roofs were initially turf, but because of fire regulations and of high fire hazard turf posed, they had been gradually been replaced by metal sheet roofs or, in some cases, felt roofs. Toward the street, the entrance doors, door frames and window frames of the main buildings are traditional 19th century elements, while the ones used for the outbuildings, secondary doors or windows facing the courtyards are newer: 20th or 21st century.

[571] Päivi Hakanpää. Rauman kaupunkiarkeologinen inventointi. Museovirasto. 2009. Original document: www.nba.fi/fi/File/708/**rauma**-raumo.pdf last accessed December 2013.

[572] Gamla Raumo Och Förslag Till Kvarterssanering. 1972.p.7

Streets:

The oldest streets and public spaces that maintained their relative position and most of their configuration are the Kalatori market, Kuninkaankatu, Vanhankirkonkatu and Eteläpitkäkatu which can be traced back to the end of the 16th century.

Traffic has been considered a significant problem in Old Rauma in the 1970s and 1980s, when all traffic including bus traffic was allowed in the protected area. Presently traffic is regulated and restricted to the main streets which usually allow a one-way traffic flow. The aim is to balance the needs of the inhabitants and of the small businesses operating on-site with maintaining the authenticity of a place that cannot accommodate contemporary traffic requirements.

Vistas, accessibility to and from the historic areas, facilities and resources available, restrictions and permissions in the buffer areas had not been considered at the time of the designation.

The connectivity and the links between the historical area and the wider urban fabric has been a problem identified since the 1970s[573], especially in the fringe areas where the exploitation coefficients vary significantly between adjacent properties (0.3 to 1.2). On the East of the protected area, this situation is reflected by the dense, high rise strip of the buffer zone which separates the historic area from the canal and the rest of the city.

Map 44. Functions in Old Rauma with the main landmarks of the site. Source: Rauma keskustan kehittaminen 1999; Red: commercial functions, blue: public and cultural functions, grey: other and residential functions, Rauma protection plans 1979. Legend reads: commerce, workshops and utility rooms, residential, annexes and outbuildings, public buildings.

[573] Idem.p.12

Functions in Old Rauma are divided between the residential: the homes, annexes and outbuildings owned by the local residents; tourist related: museums, art galleries; commercial: mainly shops but also the market place during fares; restaurants and cafes. The public spaces are distributed along the two main streets of the town: Kuninkaankatu and Kauppakatu; while the commercial functions tend to be concentrated around the main market square. The liveliness of the town is directly related to the position and density of shops, therefore the commercial areas generally tend to be a lot more attractive. The main functional landmarks of Old Rauma today are the Holy Cross Church, the market: Kauppatori and the historic Town Hall, now a museum, all distributed in on a north-south axis. Secondary functional landmarks, admired and used by the local residents are the medieval market: Kalatori and the ruins of the Holy Trinity Church, Naulamäki area, Kirsti museum and the Canal. The first category of landmarks, which are emphasized on the protection plans and promoted by the authorities, seem to be *top of the mind* in terms of awareness for most users. They are also the ones best maintained, enhanced and presented. The secondary landmarks become relevant on a second level of perception, closer to the less legible and undisclosed layers of significance. The quality of the paving, urban fittings, facilities, the attitude toward these places reflect the perceived hierarchy: Kalatori is less controlled and maintained, often used as an informal parking lot whereas Kauppatori has been treated and developed since the 1950s as the unique and dominant centre of the area, a connection hub within the town linking the N to S direction of development to the E-W, in a more representative, controlled and dignified position. The Holy Trinity church was destroyed in 1640. Starting with the 17th century Kauppatori was illustrated as the main market square, whereas Kalatori was being used as a cattle market. In 1776 the masonry house was built. Therefore, arguably Kauppatori has been the main market space since the mid-17th century, sustaining the development attitude presented so far. However, given the sacred nature of the place, its –even secondary- economical position, its relation to the historic Eastern Customs gates, Kalatori is undoubtedly a culturally and historically relevant area, whose enhancement and protection would

Image 39.: Kalatori and Kauppatori in the past and now. Sources Rauman museo; Anca Dumitrescu

require more attention and consideration than it receives today.

Existing laws, organizations focused on Old Rauma[574]:

Museovirasto or the National Board of Antiquities is the major organization overseeing the protection and conservation of heritage in Finland. The fire protection of heritage falls under the Department of Administration and under the National Board of Antiquities' jurisdiction in general. This also applies for the best practices for restoration, which are covered in the Restoration Section.

For Old Rauma, Tammela is an important body of joint professionals, overseen by Kalle Saarinen. Tammela has as a main objective the maintenance and preservation of the area according to the rules of good practice. The local museum has also an important role in the protection and conservation of the site, especially from the point of view of the documentation process and archives.

Rauma local administrative bodies including the city planning office try to optimize the integration of the preservation process of Old Rauma with the developments needed in the municipality. The main laws affecting the WHS are the national building codes, "*RT-kortistot*", repair recommendations: National Board of Antiquities recommendations "*Korjauskorttistot*" and the recommendations available at Tammela specifically for Old Rauma. Overall these recommendations and norms tend to complete each other.

Inhabitants and other stakeholders:

The local community and stakeholders represent the life of the city and animate the intangibles. Without a traditional community most of the intangible values of the place would disappear. In case of Old Rauma, the traditional building techniques –briefly discussed in chapter 3- represent part of the intangibles preserved by the local community. Overall, the population of the Rauma city is around 40.000 inhabitants[575] recording a steady decline since the 1980s, while Old Rauma has a population of 800 permanent residents[576]. It would be relevant to corroborate the income of the homeowners per property with taxation or funding programs for conservation and maintenance. Simply engaging the community in conservation activities might not be sufficient for some of the members of the community to insure the proper maintenance of their property. As will be shown in the following sections, the structure and lifestyles adopted by the local community contribute to both the value of the place as well as to the threats to the sustainable development and protection of the site.

Another group of stakeholders is the p**ersonnel and experts needed on site. In Old Rauma, as in most World Heritage Sites, the conservation architect as well as the** person responsible for various hazard emergencies –for example able to give a fire hazard emergency response at any time- need to be appointed on site. These responsible people have taken on the tasks because of their involvement with the place and with the community. Their responsibility is related to a great extent to personal emotional involvement with the site. In this case the management plan should ensure objectively the continuity of training, passing of information and

[574] The protection tools and organizations that focus on the protection of Old Rauma will be discussed in chapters 4 and 6.
[575] 39.863 according to the last survey dated August 2013: http://vrk.fi/default.aspx?docid=7675&site=3&id=0
[576] a significant decrease from 1972 when the number of residents in Old Rauma was 1700, of which the majority group was that of widowed, divorced or unmarried women - Gamla Raumo Och Förslag Till Kvarterssanering. 1972.p.8

continuous formation of people responsible of the site.

II Value assessment and evaluation: the recognition of significance

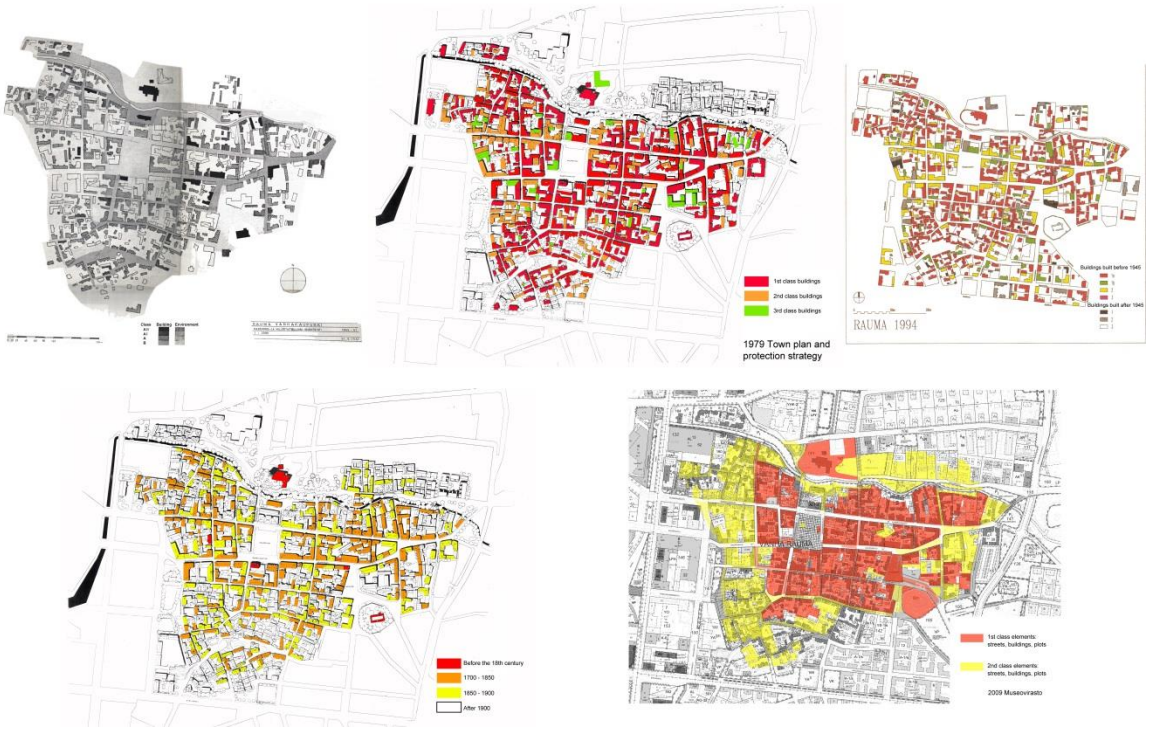
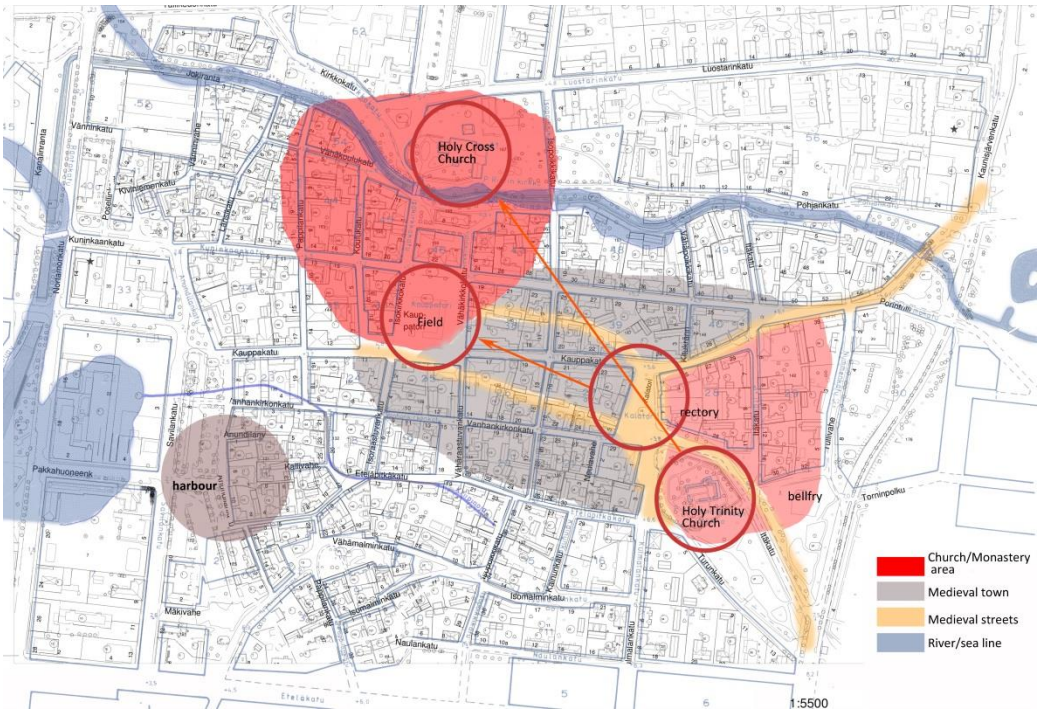


Image 40. Value assessment in Old Rauma so far has taken into account the age value and authenticity in substance, considering almost exclusively the tangible components. From top to bottom, left to right: Protection plan 1966-67; Protection plan 1979, Assessment 1994, Age value assessed 1999, Protection plan 2009

It is not only the buildings themselves that reflect the historic characteristics and layers of Old Rauma. The courtyards, plots, the granularity and building height in general, relationship with the street as well as with the interiors, building components and construction features are equally important and relevant in terms of the site's values. At this stage the significance of the place derived from the connections and interactions of tangible and intangible components should be analysed, as the definition of the historic urban landscape rests "definition of the condition of integrity, seen in social-functional, structural-historical, and visual terms"[577]. Therefore the link and interdependence between tangible and intangible components become essential to understanding the social-functional and structural-historical integrity and continuity.

[577] Jokilehto, J. 2010. Notes on the Definition and Safeguarding of HUL. City &Time 4 (3). [online] url:http://www.ct.ceci-br.org

For Old Rauma, as well as for other living historic cities, it is important to define the value of the place in relation to the characteristics of the place understood as a Cultural Landscape, or in this case Historic Urban Landscape (H.U.L.)[578]. The man-made elements contribute fundamentally to the value of the place, but they must be understood as integrated components in a system, equally defined by its natural context, intangible qualities, functional diversity and dynamism, continuity or discontinuity of these functions, over which the tangible heritage adds its significance. As defined, the Historic Urban Landscape can be viewed from multiple perspectives:



Map 45: Shifting of the functional core and the historic functions of Old Rauma. Source: Keskiajan Kaupungit 2:1983, Hakanpää, Päivi. 2009. "Rauma-Raumo, Kaupunkiarkeologinen Inventointi". Rauman kaupunki.

the layers of significance as they present themselves to the stakeholders, the layers of value, and the layers of understanding. These types of layers in Old Rauma have several common elements, but are not identical. The layers of understanding differ considerably between stakeholders, and they depend on the presentation and communication strategies but they have little value association; they relate closely to the legibility of the place. The layers of significance reflect the uncovered and acknowledged layers of value - significance is not intrinsic to the site, it varies depending on the stakeholders. The layers of significance are strongly linked to present values assessed by present generations. The layers of value refer to the stratified character of intrinsic values of the site, which may be apparent or hidden.

Ulla Räihä has noted that research and re-evaluation of the overall values of the site, considering all the stakeholders, has not been made[579]. A task difficult to achieve is making information accessible to all: firstly because most of the studies and documentation were

[578] as defined in Chapter 1.

[579] Räihä, Ulla . 2005. Vanhan Rauman asemakaavan muutoksen tavoitteet . Rauma. (http://www.rauma.fi/tevi/kaavoitus/kuvat/VR_amk_yleistavoitteet_L050415_osa3.pdf accessed January 2012)

elaborated in the late 1970s; secondly because heritage owners are entitled to their intimacy and privacy. The identity of Old Rauma also resides in the typology and the feeling of the courtyards, most of which are privately owned.

Functions: the commercial function is one of the defining functions of Old Rauma. Historically, Old Rauma has been relying on its harbour for both commercial and shipbuilding activities, on its surrounding areas for agriculture, wood exploitation and processing. Kalatori, later to be replaced by Kauppatori, and Kauppakatu are -as their names suggest- the commercial and functional backbone of Old Rauma. The relationship between buildings and the streets evolved from an introverted attitude, specific of the 1600s, with annexes and outbuildings placed toward the street and the main building protected inside the building plot. By 1823 the building codes specified that the main residential and commercial buildings should be placed toward the street, maintaining the entrance to the building from inside the plot, while the outbuildings were sent to the back of the plot with following fire safety measures. After 1850 buildings, especially in the commercial areas, started having the access to the main building directly from the street.

Although its life had always revolved around commercial activities, these have been limited to the market places up until 1861. In 1814 only 4 stores were recorded in Old Rauma, on Kauppakatu and Kuninkaankatu, as an exception from this rule[580]. From 1861 small stores were allowed within urban area and the number of small businesses and shops increased.

The urban environment is considered generally more valuable than individual buildings, although it has been noted that the buildings are an essential defining component of the urban environment. The phenomenon of city expansion and development can be better described in areas of different specificity, which most likely were developed under different conditions, in different periods, for different uses. In Rauma as well as elsewhere in the historic towns of Finland, there are several urban layers clearly distinguishable, but unlike the other towns, Old Rauma is a historic area of outstanding universal value, encircled by a buffer zone. In the context of managing change in the historic town, the manner in which the buffer zone is selected and fulfils its purpose is paramount. Values and characteristics relevant for both the protected area and the buffer zone should be considered and protected.

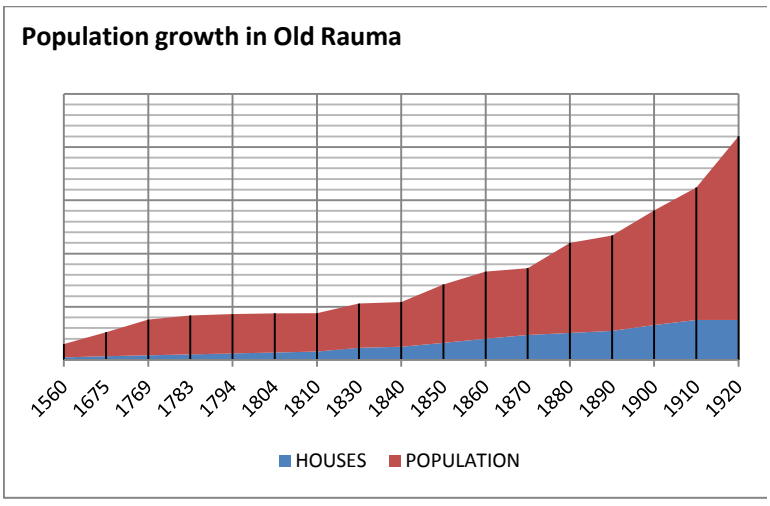


Figure 26: Population growth in Rauma

Old Rauma's growth changed the urban environment over time. Although the town received its charter in 1442, the first mentions of Rauma as a settlement were connected to the building of the Holy Trinity Church in the late 14th century[581]. The settlement was defined by the functional triad consisting of the religious core, the economic trading centre and the

[580] Gamla Raumo Och Förslag Till Kvarterssanering. 1972.p.19
[581] Vanha Rauma - Old Rauma. 1992. [Rauma]: Rauman museo.

harbour, which gave the place its initial identity and determined the direction of growth. The religious pivot was represented by the Holy Trinity Church until 1640 when the church was destroyed by fire, and was replaced by the Church of the Holy Cross, a stone 15th century church which initially belonged to the Franciscan Monastery[582]. Trading revolved around the marketplace - nowadays Kalatori: the fish market. The town, however, did not receive its charter or the official privileges, including commercial trade, until the 15th century[583].

In 1620 the customs fence for collection of petty duties was built, indirectly restricting the physical growth of the town until the beginning of the 19th century[584]. The dense historic core therefore owes its structure, endurance, and coherence to the customs fence, providing an eloquent example of how an administrative and economic tool shaped the face of a city and controlled its development for almost two centuries. Rauma is Finland's fifth established town[585], and is considered the largest and most homogeneous historic area[586].

Image 41 Electrification was introduced in Old Rauma. Kuninkaankatu 1906 -1912 Source: Rauman museo. Image code: RMK67a

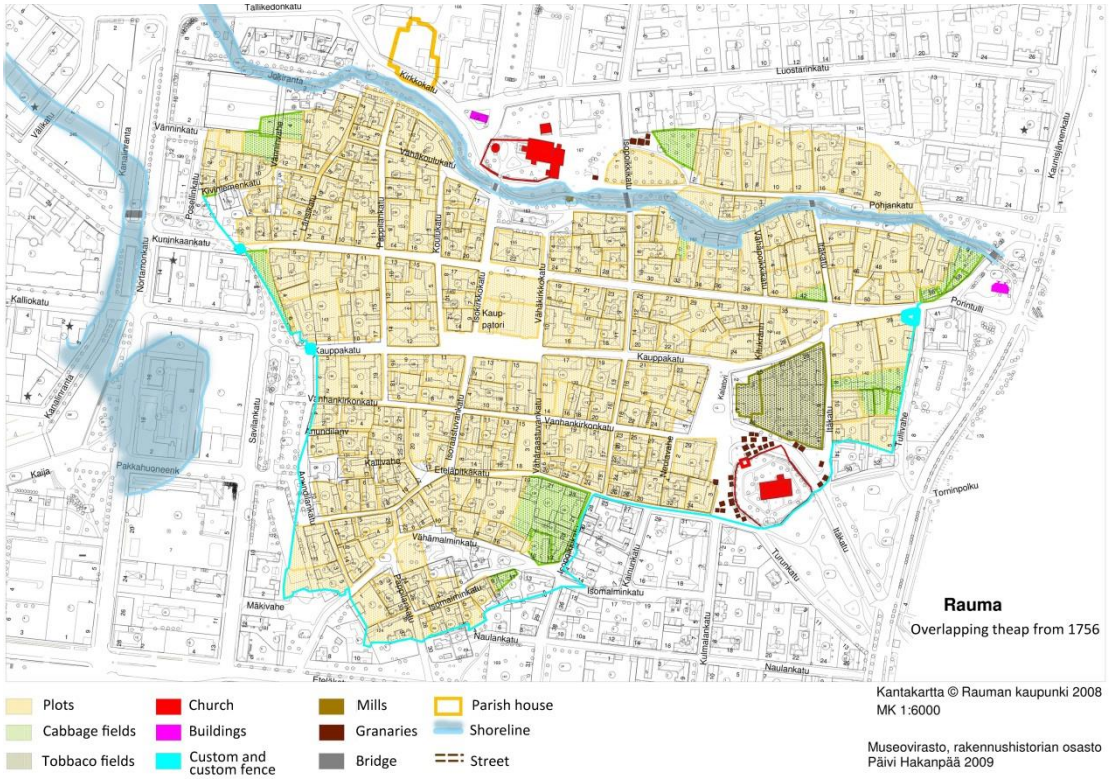
Fire has been one of the major causes of change up until 1682, as most of the building material used in the area has been wood. The 1682 fire is a crucial moment in the recorded history of the town because it destroyed the vast majority of the building stock in Old Rauma[587] allowing for the streets to be straightened and for most of the wooden houses in the centre to be rebuilt. The moment is also relevant, because, aside from a 1650 sketch of the area[588] by Hans Hansson, there are no maps or surveys of the area prior to the fire. The earliest detailed map of the town dates to 1756. However, according to some studies[589] Kalatori is certainly the oldest medieval market of the town, toward which most of the town's streets converged, and which was also remodelled after the 1682 fire. It is considered that The Fish Market, Kalatori, and the Holy trinity Church, now in ruins, represent the core of medieval Rauma[590] .

[582] Ibid.
[583] 17th of April 1442 Rauma receives privileges of charter. Vanha Rauma - Old Rauma. 1992. [Rauma]: Rauman museo.
[584] in 1808 the petty customs levy was abolished and the custom gates removed, allowing the expansion of the building area.
[585] Lilius, Henrik.*Suomalainen puukaupunki =: The Finnish wooden town*. (Anders Nyborg,1985),151
[586] Chapter 2: Old Rauma
[587] 150 houses, all the public buildings, the Holly Cross Church's roof and the belfry, according to Hakanpää, Päivi. 2009. *Rauma-Raumo, Rauman kaupunkiarkeologinen Inventointti*. Museovirasto. 10.
[588] Map drawn in 1650 by Hans Hansson or Hannu Hannunpoika. Hakanpää, Päivi. 2009. *Rauma-Raumo, Rauman kaupunkiarkeologinen Inventointti*. Museovirasto. 11.
[589] Hiekkanen, Markus, 1983.Keskiajan kaupungit 2. Rauma. Varhainen kaupungistumiskehitys ja nykyinen suunnittelu. Museovirasto. Helsinki. 43-44.
[590] Hakanpää, Päivi. 2009.Rauma-Raumo. Kaupunkiarkeologinen inventointi. Museovirasto.http://www.nba.fi/fi/File/708/rauma-raumo.pdf (accessed January 2012)

Another notable change in Old Rauma concerns the position and relation of the harbour to the old town. It is known that coastal cities formed around the Bothnian Sea experience over time a shift in the connections' dynamic since the sea is receding and the land rising. Moving the harbours and trading centres closer to the sea redefines the connections within the city as well as the historic core itself. According to Aina Lähteenoja[591] , the old harbour became impracticable starting with the 19th century[592] and had to be moved further to the south – west. In 1851 a decision had been taken to excavate the canal connecting the town to the harbour. From 1851 to 1863 major works to the canal and market place have been carried out, in order to improve accessibility and drainage systems. The canal was completed and became navigable in 1872 but construction and maintenance works continued all throughout the 19th century. The topography and the river bed of the Rauma River have been remodelled and modified in different stages, but neither the harbour nor the canal belong nowadays to the protected area or to its buffer zones.

The late 1800s and the early 1900s further contributed to the changing of the Rauma archipelago, through the building and extension of the railway, and through the new connections between the port and the industrial areas. The construction of the railroad, linking the industrial harbour area with inland Finland, has been a key moment in the development of industrial Rauma. It naturally divided the town in two areas to the north and the south of the tracks, but it also promised to improve connectivity with the rest of Finland. In 1897 the railroad, train station and outhouses were completed and they affected the development of the area throughout the industrial era. In 1988 passenger transport was suspended as unprofitable.

[591] Lähteenoja, Aina. 1932. *Rauman kaupungin historia: Rauma 1809-1917, Vol. 4*. Länsi-Suomen Kirjakkauppa, jakaja.
[592] Lähteenoja, Aina. 1932. *Rauman kaupungin historia: Rauma 1809-1917, Vol. 4*. Länsi-Suomen Kirjakkauppa, jakaja. 62.



Map 46. Rauma in 1756 and Old Rauma today. Source: Hakanpää, Päivi. 2009. "Rauma-Raumo, Kaupunkiarkeologinen Inventointi". Rauman kaupunki.

Image 42. The atmosphere of the place: Rauma after the electrification and Old Rauma today; Rauma's historic paving and Old Rauma's pavement today Source:Rauman museo. Image code: RMK25074a, Hauenguano beginning of the 20th century; Anca Dumitrescu 2011

Inside the protected area, the buildings and town plots today are almost identical to the ones present on the 1773 town plan[593].

Electrification of Old Rauma brought significant changes to the environment as well as to the manner in which the place was perceived. The introduction of running water and the sewage systems determined another significant set of changes mainly affecting the piping system running through the streets and therefore the streets themselves. Paving of the streets changed the way in which traffic was organized and marked the hierarchy of the streets. These elements have never been specifically included in protection plans, although they have been considered when they affected the visual perception of the place. Studies of the pavements and signal posting have been carried out, but perhaps a more holistic approach using impact assessment tools could have reduced the number of traffic experiments in the area as well as the number of changes to the type of street paving. Small elements of high functional value and seemingly low symbolic or artistic significance prove to be quite relevant for the perception of the urban environment.

Image 43. Historic images: the windmills as components of the Rauma's townscape, beginning of the 20th century. Source: Rauman Museo. Image code: RMK2520

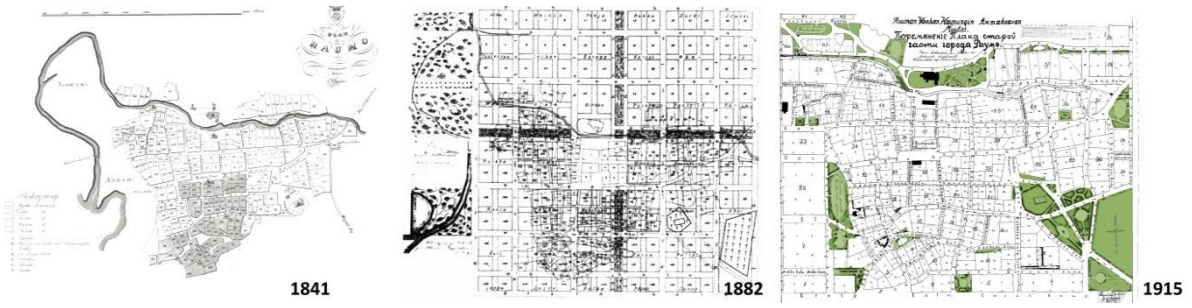
For example the well situated at the intersection between Kuninkaankatu and Itäkatu, is a remainder of the importance these elements used to have for the life of the town. In the 19th century there were 152 recorded **wells**[594] used as the main fresh-water supply which were an integral part of the urban environment.

Windmills were until the mid-18th century an integral part of Rauma's landscape, although they were placed on the outskirts of the town. Their presence was noticeable as one would approach the town. Most of these windmills have been lost once their functional value was lost. It is therefore important to stress that maintaining the use value, or offering an alternative compatible use for heritage elements of historic urban landscapes is essential for their preservation. Only a limited amount of heritage can be preserved in a "museumified" state. Clearly preservation is also a matter of selection, since historic urban landscapes, through their nature as lively operational entities, need to change.

[593] Rakennusperintö ja paikallisuus. Ajallinen kerrostuma suunnittelun lähtökohtana Raumalla. Toim. Sirkka Köykkä. Arkkitehtuurin osasto / Arkkitehtuurin historian ja teorian laitos, TTKK 2000. p.10
[594] based on fire insurance documents. digital archive: http://digi.narc.fi/digi/dosearch.ka?atun=233818.KA

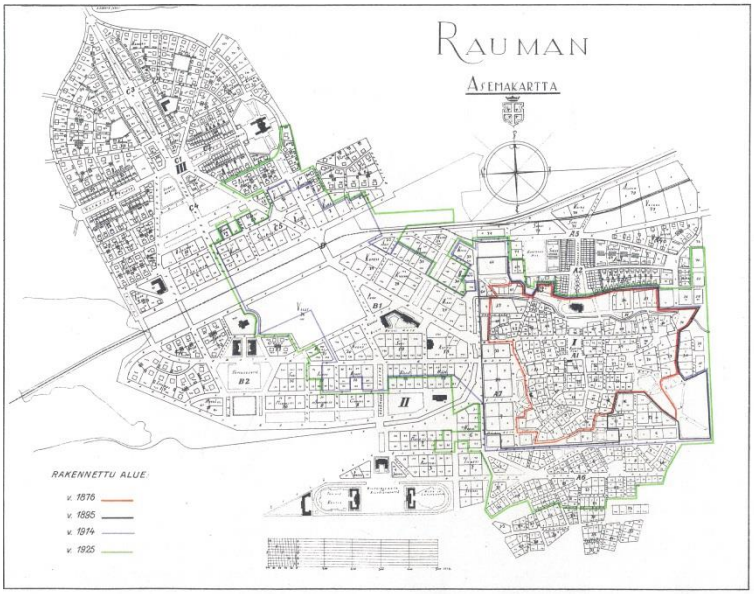
Outside the historic area, the manner in which new development areas were planned affected the way in which Old Rauma relates to its environment, as well as the vistas and the perceptions while approaching the site. The developments around Old Rauma, the principles and ideals they were based on, triggered the segregation between the town -historic area- and new city.

The present day protected area represents the whole area of Rauma as it stood up to 1838 when the town started to expand following the dissolution of the customs gates. Only the SE and NW corners of the old town have been affected by development and urban remodelling[595].



Map 47. Old Rauma town plans 1841, 1882, 1915 - Sonckin asemakaava. Source: Rauma museum

The historical layers built after 1838 are representative for the buffer zone and of national significance for Finland. Rauma started growing initially westwards, toward the harbour. In 1882 the town plans (map 70) showed a centrifugal expansion around the historic core. Westwards the area nowadays stretching between Nortamonkatu and Hankkarintie was designed as a park and market area - a buffer between the historic area and the new city. The Canal is another element that was designed to bring the old town and new city together. The orthogonal design carried out with disregard for the difficult topography or existing property was eventually perceived as one of the main weaknesses of the 1882 plan, which is one of the reasons the plan was realized only partially. By 1915 most of the buildings and plots within the historic area were considered relevant and worthy of being protected, although at the time there were no tools or system in place for the protection of heritage.



Map 48. Old Rauma's town plans in 1925, by Andersin.

The ruins of the church and its surrounding cemetery were marked as relevant in town plans starting with Lars Sonck's town plans in 1915, surrounded by vegetation. In

[595] Rakennusperintö ja paikallisuus. Ajallinen kerrostuma suunnittelun lähtökohtana Raumalla. Toim. Sirkka Köykkä. Arkkitehtuurin osasto / Arkkitehtuurin historian ja teorian laitos, TTKK 2000. p.17

this case vegetation has the role of a neutral background which highlights the significance of the heritage which projects on it. Up to 1920, when the city started to spread significantly, the agricultural fields and flat cultivated areas were in close relation to the old town, at least considering the vistas. Rauma was a town of low wooden houses overseeing the flatlands.

In 1922, according to Andersin's plans Rauma was supposed to be expanding mainly westwards, north of the canal and toward the harbour. Very little of his plan was, however, implemented. Starting with the 1930s, and the 1937 Eelis Kaalamo's town plan, new ideas appeared concerning the high rise buildings in the new areas to the west of the now protected area. These development areas had little to do with the old town's character. In terms of urban character and historic layers, it is relevant that the industrial layers of the 19th and 20th centuries facilitated the use of stone and masonry for the buildings designed in the development areas. The segregation was no longer expressed in relation to the areas: within or outside the historic limits, to the grid, to the functions: traditional or specific for the new industries, the scale: single story and multi-story, but it was also expressed in the materiality of the environment. The new materials, building techniques, functions and lifestyles defined the new contemporary city wrapped around the historic town. The new city, the industrial city had new public buildings, new functions built in stone[596] which allowed for a different urban configuration in line with the fire requirements. The most representative area for the new environment, defined by the industrial layer and masonry construction of the 1950s-1980s, is along Syväraumankatu[597]. Here the residential blocks have a completely different height regime and relation to the street defining a completely different atmosphere of Rauma. Although this layer is situated outside the buffer area associated to the old town, it is interesting to remark the difference in character by contrast between this "stone layers" and the historic "wooden layers". Once again it becomes apparent that the Outstanding Universal Value of the "wooden town" does not reside solely in the materiality of the town -the wood. Judging in contrast with the "stone layers" outside the buffer area, the wooden town is defined by a certain relationship of the buildings to the street, scale and height of the buildings, typology and presence of the courtyards, position on the plots and in relation to the street sustained by the fire regulations, and most importantly is defined by the traditional activities associated with this type of environment. The wooden town of Rauma, Old Rauma, is therefore a phenomenon, not just a physical manifestation of an era when buildings were built in wood. The integration between the historic and the industrial - the town and the city in Old Rauma is therefore problematic not only at a formal level, but also in terms of significance - the industrial age brought upon the community and lifestyles major changes that were expressed in the physical materiality of the city.

The 1950s was the start of planning in neighbourhoods in Rauma: groups of buildings were being developed in a clustered manner and the city started growing in regions rather than spreading organically. The development of suburbs flourished between the 1960s and 1980s, when a new residential building typology: multi story masonry buildings, was encouraged as means to densify the urban structure. The harbour area was specifically targeted for the construction of the new suburbs.

[596] industrial buildings, schools, bakeries, factories, the fire brigade building, leather factory -initially located on the edge of Old Rauma, beer factory in relation to the river, wood processing factories, a shoe factory, bakeries.
[597] Rakennusperintö ja paikallisuus. Ajallinen kerrostuma suunnittelun lähtökohtana Raumalla. Toim. Sirkka Köykkä. Arkkitehtuurin osasto / Arkkitehtuurin historian ja teorian laitos, TTKK 2000. p.46

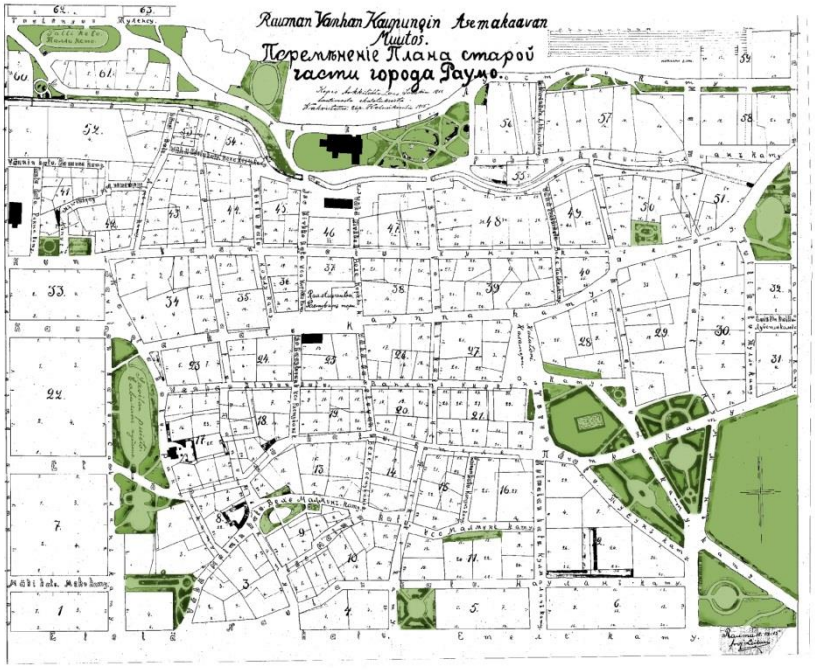
Buildings: in Rauma residential areas with single story houses had been built in wood. In the industrial areas, multi-storey buildings have been built in masonry, and benefitted from all the "modern comforts". In this context, the definition of Old Rauma's Outstanding Universal Value based on the identity of the "wooden town" becomes clearer. Here, the historic town built in wood is found in opposition with the layers built in stone or masonry; the historic and the post 19th century urban entities are divided by the: preferred building materials, age value, techniques and technology, lifestyle, scale, urban patterns. It is essentially the contrast between the traditional Finnish society and the globalized society where the Finnish element is another component integrated in a different manner, with different requirements and standards but essentially the same with all the others: the same phones, the same computers, the same cars. It is important to underline that the contrast between the two types of urbanity is not a contrast in values. Even considering the intangibles, the difference between specific and general is reflected in the importance given to either differentiating elements or common traits.

Image 44. Interior of Old Rauma in 2012: residential and museum exhibit. Pictures by Anca Dumitrescu 2012

Discussing about the authenticity in atmosphere and lifestyle, there is the issue of the authentic interiors: what must be kept in order to insure the preservation of the interior's authenticity. It is interesting to note that some of the amenities of modern life such as: running water in houses, the presence of toilets, sewage, electricity or central heating systems, are comforts brought by the industrial era, some of which appeared in Rauma after the 1950s. This is not an argument for or against modern amenities in historic areas, but rather points out that the issue of authenticity in atmosphere has to be considered with care and a certain degree of flexibility. In terms of zoning, the city is clearly structured in old and industrial or modern areas, but in terms of interiors and authenticity of the setting and atmosphere, the segregation is no longer as evident. This suggests that for Historic Urban Landscapes the continuity, transformation as a result of natural development and evolution is more relevant than authenticity in atmosphere – much harder to define.

In terms of **authenticity**, there are a number of discussions debating whether the implementation of historic plans can be considered and to what extent. As a result of the population decrease recorded over the past decades, there have been suggestions of a different attitude for areas of high rise buildings, especially in the buffer areas that could follow the 1915

Sonck plan. A relaxation and de-densification of the industrial areas could be achieved by promoting low-rise buildings and by replacing some of the high-rise buildings with parks, in line with the 1915 plans[598]. However, it was noted that this kind of retrogressive attitude would lower the authenticity of the place. However, in line with the idea of an ever changing and transforming historic urban landscape, it is possible to answer present needs of the site using historic concepts. Future development plans could follow ideas of the 1915 plan as long as these are adapted to current needs. On the other hand, reverting the urban structure to a plan proposed and only partially implemented in 1915, for formal reasons, would compromise the integrity and authenticity of the city.



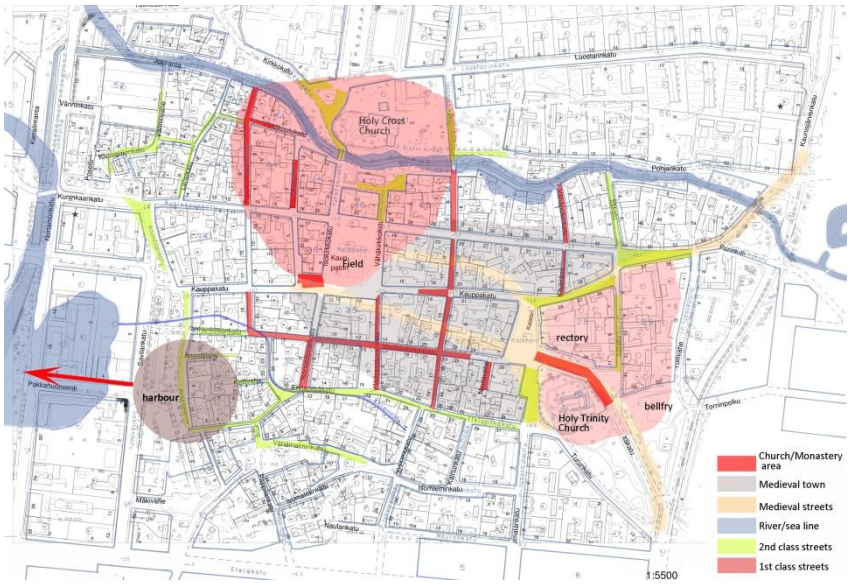
Map 49. Vegetation planned in 1915. Lars Sonck town plans

It was in 1915 that, according to Lars Sonck's town plans, the limits of the historic town would be marked and conserved by means of the parks and vegetation strips surrounding the area. The overall contour of the customs fence would be marked by a continuous planted buffer area. Vegetation becomes an important concept for the town, especially in relation to the historic area: it is the contrast needed to consecrate the historic part. Again, the canal appears to the north of the area as component integral of the historic area, and not as its borderline as it is perceived nowadays. However, because of building pressures, the green areas were not implemented and treated in reality as they had been designed, but at a much restricted scale. In the 1922 plans[599] (Map 49. Vegetation planned in 1915. Lars Sonck town plans), public buildings were designed in parks or open areas to emphasize their representativeness and to open the

[598] Rakennusperintö ja paikallisuus. Ajallinen kerrostuma suunnittelun lähtökohtana Raumalla. Toim. Sirkka Köykkä. Arkkitehtuurin osasto / Arkkitehtuurin historian ja teorian laitos, TTKK 2000 p.97

[599] Harald Andersin plans as documented in Rakennusperintö ja paikallisuus. Ajallinen kerrostuma suunnittelun lähtökohtana Raumalla. Toim. Sirkka Köykkä. Arkkitehtuurin osasto / Arkkitehtuurin historian ja teorian laitos, TTKK 2000. p.22

vistas toward them. Although this approach to the public buildings was not implemented to the extent of the designed town plans, the specific attitude toward vegetation and its role in the beginning of the 20th century reflects a feature of this particular historic layer. Inside the plots, the yards become gardens, allowing the functional layer of vegetation to infiltrate in the historic area[600]. Trees started to be planted inside the plots; therefore their foliage becomes a common occurrence in the cityscape. Vegetation had altered the townscape in 100 years - the time it takes for most trees[601] to mature. In the 19th century vegetation was limited to tree lines along the river -the canal, and in the park surrounding the ruins of the church. This kind of change, however, is in line with the cultural specificity of the place and as such becomes significant for the place. The functionality of the courtyards had changed since the 18th century, shifting from functional yards dedicated to livestock and farm activities to backyards and gardens dedicated to leisure. The attitude toward vegetation in the suburbs of Rauma built around the 1950s makes a reference to the modern movement principles where the residential multi story buildings are "floating" on a planted surface.



Map 50. Assessment of age value for the streets of Old Rauma and shifts of the harbour. The marked medieval streets are based on the 1650 town plans
Source: Rauma-Raumo:2009 , 1650 town plan

Changes to the historic buildings within the historic areas have been made in terms of improving the façades according to different "modern tendencies" and requirements. These tendencies have oscillated between regressing to a historic appearance and modernizing the facades to the point where the authenticity and expressivity are compromised. Repairs and conservation processes sometimes required the replacement of extensive amounts of historic substance, due to fungal attack or other biological infestation. In terms of building evaluation, the level of decoration, age of the historic substance, amount of historic substance still left in the building, level of craftsmanship should be considered. There have been assessments of the buildings' value in the area resulting in plans of value hierarchies. However, this type of attitude within the protected area creates the idea for the user that some properties are less valuable and therefore more permissive to change than others within the protected area. A difference in the hierarchy of values could signify for some a difference in maintenance and protection priorities, which could be very dangerous for the World

[600] According to S.A p.25 , in 1850 there were only 24 cultivated gardens in the whole Rauma, a figure that would increase 5 fold within one century.
[601] the species most often found in Rauma are birch and apple trees

Heritage Site as a whole. It is important to clarify that there is a difference between intrinsic value and significance for properties of the historic urban area, and in order to maintain and preserve the whole area, the significance must be kept together with the values. For World Heritage Sites the significance of every heritage component contributes to the outstanding value of the entire site.

Streets, connections, border lines, buffer zones: Archaeological studies[602] show that Isokirkkokatu and Kuninkaankatu are the oldest remaining traces of the Renaissance street system. The same sources state that the street system does not preserve any traces of the original town structure prior to the 1650s. Unfortunately, studies on the structure of the streetscape prior to 1650 can be carried out only through archaeological studies, since the first drafted plan of Rauma is Hannu Hannunpojan's from the 1650s. Since it has been established[603] that the land upheaval has been on an average of 60cm/century, it can be concluded that by the time the first map of Old Rauma was drafted, the land had already risen with more than 1 meter. The position of the harbour in the mid-17th century must have been different than the initial one - at the beginnings of Rauma's existence.

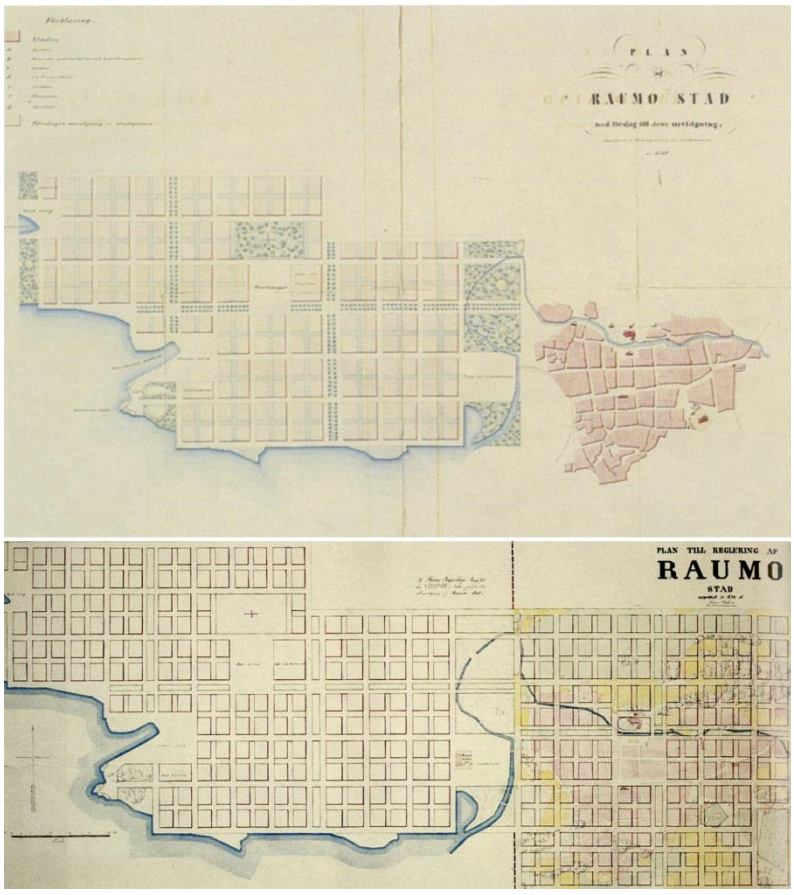


Image 45. Changes proposed through the town plan in the 19th century. Source: Lilius, Henrik. 1985. Suomalainen Puukaupunki: The Finnish Wooden Town. Anders Nyborg.

Before the 17th century changes - associated with the 1682 fire- the two main roads to Rauma, leading to Turku to the south[604] and Pori to the north[605], met in the main market -Kalatori. After 1620 when the custom gates were set up, the streets were remodelled in relation to the custom gates. The NE custom gate - Porin tulli- was placed at the end of the initial main road that used to link Rauma with Pori. This is why the configuration of the original streets leading eastward can still be traced on the town's plans: the eastern part of Kauppakatu, Itäkatu and Kuninkaankatu are roughly overlapping the initial

[602] Hiekkanen.Markus. Keskiajan Kaupungit 2. Rauma. Museovirasto. 1983. p.52
[603] Ibid.
[604] along the streets leading westward from Kalatori
[605] Ibid.

medieval street, just as the Vanhankirkonkatu segment between Kalatori and Itäkatu. These street stumps retain some clear medieval characteristics: crooked remains in an otherwise orthogonal Renaissance system. The entrance point can still be identified at the east end of present day Kuninkaankatu. The north access road linking Rauma to Turku was limited by the custom wall, and in time it was covered by the redesigned building plots. Kauppakatu was the functional solution that aimed to replace one of the main North to South street axis, annulled by the customs fences; it resulted in a doubling of the east –west orientation axis.

Between 1860s and 1890s there were changes proposed to the streets of the historic areas Kauppakatu was decided as the main street of the town, whereas Kuninkaankatu was supposed to be transformed into a secondary fire street. The historic area was divided into blocks altogether and parks were designated as fire buffer areas within the historic town[606]. It was also between 1864 and 1872 that the Rauma River was transformed into the canal that can be seen to this day.[607] The parks proposed in the 19th century around the historic area were designed as a functional separator between the Old town and the new city.

For fire reasons the old town itself was supposed to be divided by fire lanes and green belts into two separate zones, each with its own marketplace. The canal linking Old Rauma to the harbour was already being regarded as a separator between the historic town and the contemporary city, its role as a buffer being emphasized by the greed areas designed along it. Initially the canal was part of the vegetation buffer areas around the Old Town. In the 1890s' town plans streets appeared alongside the canal, transforming it into a trafficable barrier. The plans of the 1860s - 1890s were implemented only partially in limited areas, but they stand to illustrate the attitude of the authorities over the necessary development of the area.

Fire lanes continued to be of prime concern in the town plans, their presence being most obvious in the newly developed areas around the historic town[608] and in the buffer areas. It is debatable whether the reason for isolating the old town from the new neighbourhoods was a functional, ideological or aesthetic one, but it is certain that fire prevention has always been the main point of most improvements brought to the historic wooden towns.

Overall, the 20th century marked the expansion and growth of Rauma, and reorganized the hierarchies and dynamic of the area. What is particularly relevant is that in most town plans of the 20th century, Old Rauma remains at the centre of the city, in terms of functions, connectivity, traffic. The railroad and the canal have been elements of both segregation and connection. Until the 20th century the canal had been the connection between the town and its harbour, but its North-South axis redefined in the 20th century acts more as a barrier rather than a connective road. Its N-S orientation is found in contradiction to the E-W orientation of the axis joining the sea and the historic town. The harbour gradually became a part of the industrial city and lost its place and connection to the historic town. By the beginning of the 20th century, it had already started to gather around it many of the buildings with functions specific to the industrial era: the sawmill, pulp and paper mill, the glass factory, the shipbuilding industry, the ammunition factory. They had a different scale, use, atmosphere, relation to the urban environment than any of the previous

[606] Lilius, Henrik. 1985. Suomalainen Puukaupunki =: The Finnish Wooden Town. Anders Nyborg. p.82
[607] Saarikoski, Antero. Kaupunkirakenteen muutos Raumalla 1756-1912 : tontinomistuksen ja vuokralla-asumisen vaikutus kaavoitukseen ja tonttipolitiikkaan. Lisensiaatintyö. 1999. p.14
[608] for Old Rauma, the protection area of the World Heritage Site overlaps on the traces of the historic town as it stood prior to 1883. Therefore, in this case the concepts of the historic town and the protected area coincide.

buildings, and therefore were unintegrated with the existing layers, although many of the new constructions continued to employ wood as the dominant building material.

The railroad became the mark of the new industrial age, with many of the new enterprises grouped around it. As a new circulation hub for the industrial city, the railroad assumed the role the harbour once had for the historic town. The industrial enterprises: depositing and commercial buildings were built close to this transportation line. The industrial and the pre-industrial historic layers were already segregated, therefore, the two elements defining the commercial and transportation hubs for these groups gradually had become elements of separation and contrast rather than elements of connectivity. The railroad and the river became borders rather than binders.

The roles and values of the streets should be therefore correlated with their roles as either separating elements, connecting elements, buffers and mitigators, or integration elements. The value and use typology define these urban components. Vegetation strips, parks and pedestrian lanes work similarly as connecting buffer components, as they allow transit from one area to the other and at the same time gradually introduce areas of different typologies.

Image 46. Traditional activities are part of the intangible values of the place. Source: Anca Dumitrescu 2011

Changes in demographics, attitudes, perceptions

In terms of changes in demographics, and their impact on the building stock and the town, it is known that in 1560 there were 500 inhabitants for 100 households and 70 plots. In 1675 there were more than 900 residents in Old Rauma and 144 households. In the 18th century, due to the economic prosperity of the area, the town and its population grow rapidly, reaching 1460 inhabitants in 1783[609]. Aside from periods of famine or war, the population of Old Rauma has grown as a result of economic prosperity, with peaks in the growth trend in the 1840s, 1870s, 1890s[610] and 1910s[611]. The growth in population was due to both obtaining the town's staple rights in 1830 and to the rise of the shipping era, which started a decade later. Since the population growth has been a result of migration and not of the increase in birth rates, it triggered almost immediate need for additional housing and zoning in the town. The city and the number of new houses increased at a slower rate in this period, than the increase in population, which placed additional pressure on the existing building stock, and encouraged the maintenance of the existing buildings. The insufficient number of buildings, the needs of the

[609] Saarikoski, Antero. *"Kaupunkirakenteen muutos Raumalla 1756-1912"* Lic. diss, Teknillinen korkeakoulu Arkkitehtiosasto. Helsinki. 1999. 15.
[610] the period of the maritime peak of Rauma
[611] marking the rise of the industrial era.

growing population and the increase in the number of locally influential middle-class merchants who owed part of their income to renting their properties, partly explains the town's resistance against the urban restructuring plans proposed in this period. The bourgeoisie established in the 1800s, comprised mostly of house owners, and who had elected representatives in the city council, opposed the plans for the town's expansion until the 20th century[612]. Economic prosperity, the new legislation and political ideologies of the 19th century, population growth, housing development and the new renting policies also changed the structure of the urban population, its relation to the building stock, and the sizes of the newly built households.

The end of the 19th century and beginning of the 20th century brought large scale industrial development in Rauma: the steam sawmill in 1862, the electrification of the town in 1902, the founding of the wood and glass factories in 1911. These changed both the economy as well as the atmosphere of the town.

The transformation of Rauma's economic market from consumer market toward capital goods and industrial market, determined also a change in occupations, as the number of craftsmen decreased and the number of industrial workers rose. The functional divisions of the town changed, the number of shops increased, and the 'face' of the town changed. The change in attitudes and incomes of the 19th century triggered physical changes in the urban fabric: remodelling the facades of existing buildings, using the new architectural syntax of Neo-Classicism and Neo-Renaissance[613] especially in facades and details, planning of new housing areas. It is between 1870 and 1920 that Kauppakatu began to be shaped in what is today the city's commercial street[614].

Image 47: Traditional crafts 1954. Source: Rauma ja meri. 1991.

It is also in this period – the end of the 19th century, beginning of the 20th century – that the crafts gained more importance and started to function in rented houses and studios, as small businesses, increasing the role of 'the tenant' as a stakeholder. Although the tenants have been important stakeholders in Old Rauma starting with the beginning of the 19th century, with a peak in 1912 when the estimated population consisting of tenants was

[612] Saarikoski, Antero. *"Kaupunkirakenteen muutos Raumalla 1756-1912"* Lic. diss, Teknillinen korkeakoulu Arkkitehtiosasto. Helsinki. 1999. 13.
[613] Lilius, Henrik.*Suomalainen puukaupunki = The Finnish wooden town*. (Anders Nyborg,1985), 170-178.
[614] Saarikoski, Antero. *"Kaupunkirakenteen muutos Raumalla 1756-1912"* Lic. diss, Teknillinen korkeakoulu Arkkitehtiosasto. Helsinki. 1999. 21.

estimated at 75,4% of the total population[615] , they never had a significant voice in the decision making and in the development of the town. Partially protected by the Finnish laws regarding private property, the homeowner cannot be sanctioned or controlled in terms of property management. For present day world heritage sites this historic reality may be an impediment for the adequate maintenance of the site. Therefore platforms allowing a better negotiation and dialogue between different interest groups should be considered.

In terms of social structure, in the 18th up to the 20th century, Rauma's population was mainly comprised of the middle-class bourgeois: ship owners, teachers, office workers, craftsmen and building owners. The need for social recognition meant that the properties belonging to the bourgeoisie started to reflect the new social change and acquired status.

In terms of traditional crafts –part of the intangible heritage of the area- , beside lacemaking, which was considered a substantial business starting at the end of the 1700s, the largest groups of craftsmen consisted of shoemakers and tailors. By 1830 five professions were established in Rauma: carpenters, blacksmiths, tanners, tailors and wood turners.

Contemporary intangibles and values based on perception:

Generally the intangible values and characteristics are overlooked although they are fundamental for properly defining Old Rauma's specificity. The language for example, "Rauman murre" as it is known in Finland[616], combines words of Finnish, Swedish, Estonian, English, Russian and French to create the clear feeling of an intimate local community and makes Rauma a particular place even within its Finnish context. The language can be linked to the town's commercial role as a harbour on the coast of Finland. Cultural interaction apparent in the language can also be traced in the buildings and facades of Old Rauma or in the traditional local food. Even if there are no direct connections between cultural intangible elements and the built environment, it is important to underline and maintain the role they have for the local communities. The intangible values can act as social binders for the traditional communities and can ultimately influence how life and functions are organised within the space.

One of the reasons Old Rauma ultimately outranked Old Porvoo[617] as a representative historical site is linked to the functional variety, integrity and dynamic of the place. As a historic city, Old Rauma is a place of action and in that sense it is important to define the "to do"s. Traditional activities, festivals, seasonal markets, lacemaking exhibition and events[618] bring tourists and raise the awareness of the area. These types of activities, the traditional crafts, the events that involve and engage the whole community, are valuable not only as marketing tools, but also because they represent intangible characteristics of the place. The value of historically relevant festivals and activities should be stressed accordingly: Rauma's language, traditional crafts preserved by some local craftsmen, the sailing activities linked to the once flourishing boat building industry, local customs are valuable in order to fully understand and appreciate this unique World Heritage Site. At the moment the most celebrated events are the Rauma lace week in July, the blues music festival in July, wine days in June, various fairs and markets throughout the year -like the Salakkamarkkinat in September.

[615] Saarikoski, Antero. *"Kaupunkirakenteen muutos Raumalla 1756-1912"* Lic. diss, Teknillinen korkeakoulu Arkkitehtiosasto. Helsinki. 1999. 85
[616] Heino, Hannu. Raumlaissi sanambätki. Rauma, Oy Länsi-Suomi. P.96
[617] The issue is further elaborated in chapter 4, "Between Old Rauma and Old Porvoo".
[618] the Lace week

Aside from the local owners and tenants, other stakeholders of Old Rauma can be grouped in three major categories: responsible organizations, volunteering, tourists and visitors. The responsible organizations with a significant impact on Old Rauma, as stated, vary from a general level, starting with UNESCO, The National Board of Antiquities, to a local level: Tammela, Rauma Museum, Rauma local administrative bodies including the city planning office.

In terms of volunteering work, this includes conservation and research work which does not involve any financial benefits for the service provider. In this case the stakeholder is interested primarily in the maintenance and protection of heritage. University work groups and other academic and education-related groups generally fall into this category. Finnish universities such as University of Oulu, University of Jyväskylä or Tampere University of Technology have carried out different research projects on the site.

One of the most important **groups of stakeholders is the local community**, the direct users of the place, property owners and tenants.

Population and influential social groups have varied a lot historically, so there isn't a traditional structure of society that has maintained its privileges, traditions and lifestyles throughout the years. The most drastic social changes occurred together with the industrialization which changed the image of the city: the most notable shift in the property owners' structure occurring between 1756 -1912[619], while the major shift in functions and functional typology occurred between 1850-1895 when the new companies appeared and remodelled the urban environment.

[619] with a population rise from 1300 inhabitants to 5100 inhabitants in the period.

Image 48. Piers of Old Rauma. Picture by Anca Dumitrescu 2012; Rauma's harbour 1908. Source Rauman Museo Image code: RMK252, RMK2292a

The residents of Old Rauma varied across the centuries in terms of both numbers as well as population structure. The biggest impact on the built environment was made by the migration waves which generated an abrupt increase in resident numbers and exerted the biggest development pressure on the residential architecture. Changes in the population structure modified the patterns of use, the type, position and outlook of the main town functions, and

changed the building stock in terms of representativeness and interior organization. The local residents have been regarded as an important component of the life of the city, but not as a heritage resource. They are viewed to generate need within the town, but have never been considered "heritage makers", "intangible heritage" nor as heritage protectors or as an integral part of heritage that should be empowered. The community is perhaps the most important intangible component of the H.U.L. In Old Rauma the traditional community makes for most of the inhabitants: either born in families of Old Rauma or integrated in the community for some time. The dynamic of the town's renewal rate in terms of residents has been low within the past two generations, which makes for a tightly-knit community. Traditional crafts are kept alive in the families: lace making, sailing if not shipbuilding. Most residents of Old Rauma sail and own boats. For them the sea and the small boat piers are an integrated component of the place. However, for the outsider, the town's connection with the sea is concealed, the piers obscured from prying eyes.

The owners and users of the site are generally interested in the atmosphere of the place, maintaining a certain level of comfort, facilities and life standards. The locals understand, experience and perceive the site in a manner inaccessible to the outsider. The signs of the town, the habits and traits of people and places are read in a different manner, experienced throughout the seasons and environmental changes. Understanding the value of the place is fundamental for the site's conservation. The local community's decisions, investment and involvement impacts conservation policies the most.

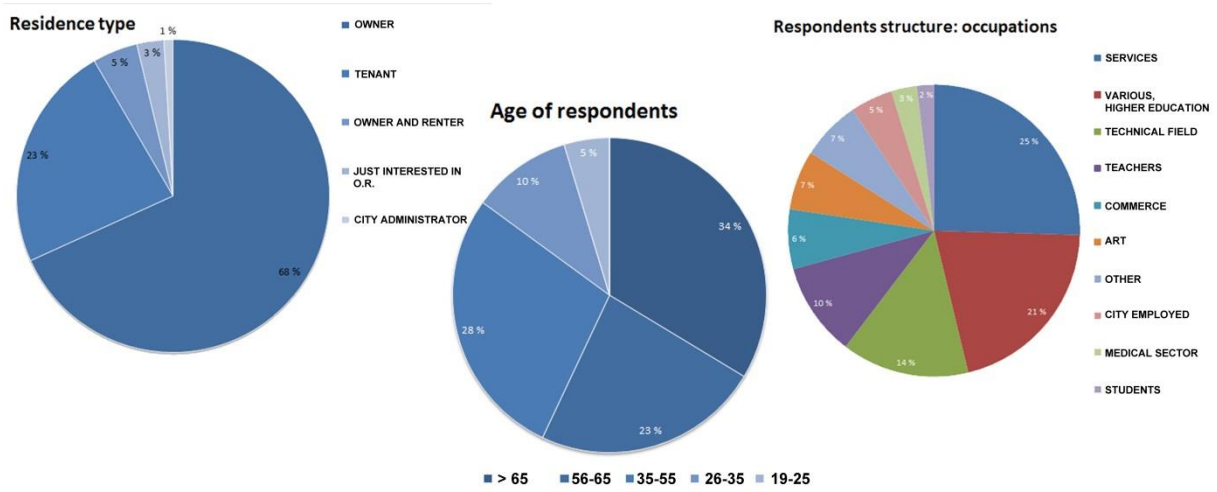


Figure 27. Age and occupation structure of the respondents taking part in the 2014 questionnaire

The tenants have usually the same interests and similar attachment to the site as the homeowners, but often lack the authority and voice for intervention. This is a double edged sword - tenants cannot change the heritage resources they use, which can limit the possible damage brought to the properties, but at the same time they are not involved in the conservation or preservation process.

A survey[620] on the perceived values associated to the site by members of the local community, pointed out a number of interesting aspects in relation to the value of the place as perceived by its users.

[620] Sample size 364, confidence level 95%, margin of error 5%, considering the whole population of Old Rauma at 800. The survey carried out in February-March 2014 consisted therefore of 364 distributed questionnaires of which 123 were

The response rate at the moment of the analysis was 33,8%. The questionnaire was divided into 3 sections: the first, general, section looks at the age of the respondents as well as the type of ownership within Old Rauma. The majority of the respondents are over 65 years old home owners – 34%.

It is also interesting to observe that the majority of the respondents are emotionally attached to the place because they have been living there for extensive periods of time or/and because they were born there. It is these community the residents that were in their early 20s when the major changes of the 1960s to 1980s were proposed, were in their late 40s, early 50s at the time of the nomination. This can prove to be a serious weakness for Old Rauma, since these users were dedicated and determined to protect the values of the site, and have been attached to both the tangibles and intangibles of the site. They are the ones protecting and maintaining the site and its properties even when enforcing measures do not exist. One of the respondents mentioned he cleans the street and public areas around his property, since littering in the area is a problem. These residents do not solely rely on the local administration to carry out maintenance and repair work, and are actively involved in the preservation and conservation process. It can also be noticed that the new inhabitants of the place have a lower level of attachment and a lower sense of the community than the traditional inhabitants. This suggests that enforcing measures for the future protection and maintenance of properties might be needed in the future, to compensate for the lack of emotional attachment of future users.

returned. The questionnaires were written in Finnish. Tourists and visitors were not included in this study, which limits the impact and relevance of the results. However, the local communities have the biggest impact on the quality of the environment, as well as on the efficiency of the conservation and protection policies therefore analysing their needs, the perceived values can prove significant.

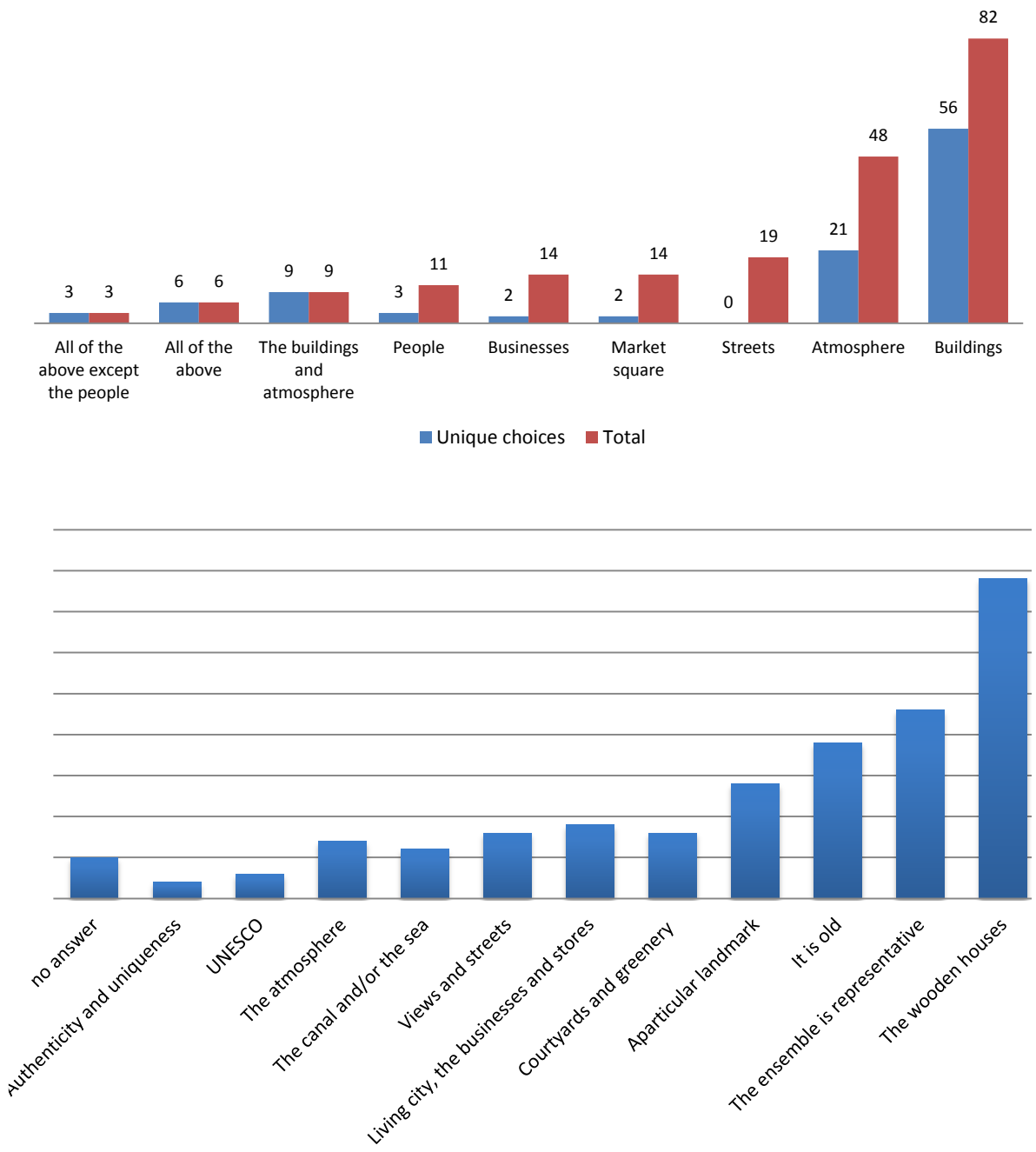


Figure 28. Top: Most important in Old Rauma – multiple choice question: the answers representing unique choices in blue and total number of choices including unique choices in red. Bottom: Representative for Old Rauma – open question. The answers point out the correlation made by the users of the site, between value and significance at the scale of the H.U.L.

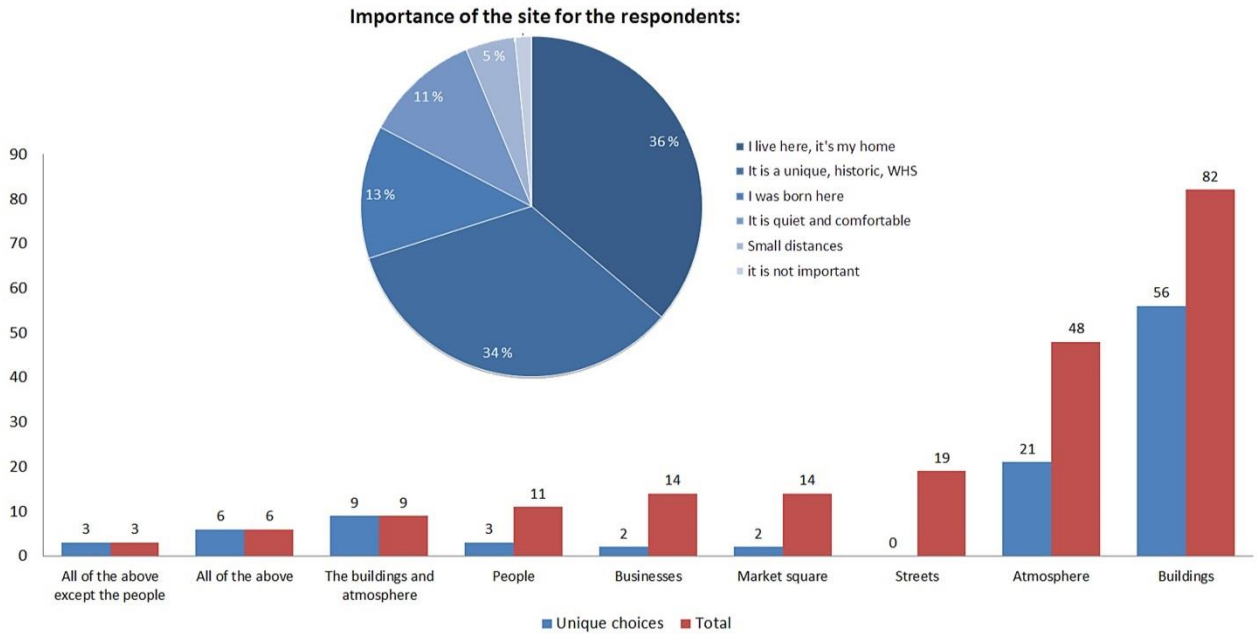


Figure 29 The importance of the site is generally viewed linked to the subjective, personal relation with the site, whereas values of the site are being viewed by the users from a more objective perspective.

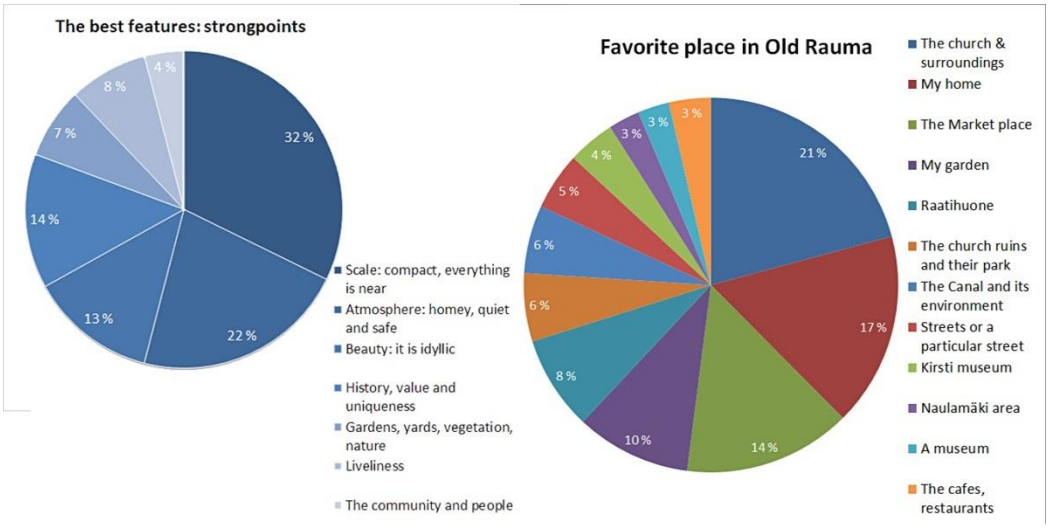


Figure 30. The best features of the site are not necessarily as "favourite places". The dissociation between the two may be related to the quality of the public space and the urban experience of the users.

The second section of the questionnaire consists mostly of open format questions aiming to identify the perception of the inhabitants of Old Rauma, focused mainly on the perceived strong points and weaknesses.

Most of the respondents indicated the reason Old Rauma is important to them is because it is their home or because they were born there.

The significance associated with the site is based on emotional ties and attachment, and only secondarily on the historical value, international relevance or uniqueness of the site. In terms of what is **representative** for Old Rauma, most of the respondents - 40%- considered that the buildings themselves, the built area or the age of the place are representative for the area. The atmosphere, or authenticity of the place, was less considered in terms of representativeness. Less than 1% of the respondents associated intangible elements to Old Rauma's stateliness. The same question was subsequently reformulated in a leading manner by employing multiple choices rather than open format. The results were somewhat similar in that the buildings themselves were regarded as being the most important and valuable feature of Old Rauma: 45% of the respondents indicated the buildings as being the only element of value in Old Rauma, while an additional 21% considered the buildings being valuable together with another component -usually the atmosphere of the place. Again, the community and intangibles were considered as irrelevant of holding very little value. This reflects mainly the attitude of the 1990s when the focus of conservation and value assessment was placed on the building stock, and not on the area viewed as a historic urban landscape. However, when asked what are the site's **best features**, the results showed a better understanding of Old Rauma as a H.U.L., by placing the scale of the place, the atmosphere and aspects such as diversity, liveliness, community among the most frequent answers.

It is interesting to observe that aesthetic qualities were considered amongst the most valuable, and the idea that the area is a living "museum" is appealing to a surprisingly large number of respondents. This supports the idea that façadism in conservation is a threat for Old Rauma.

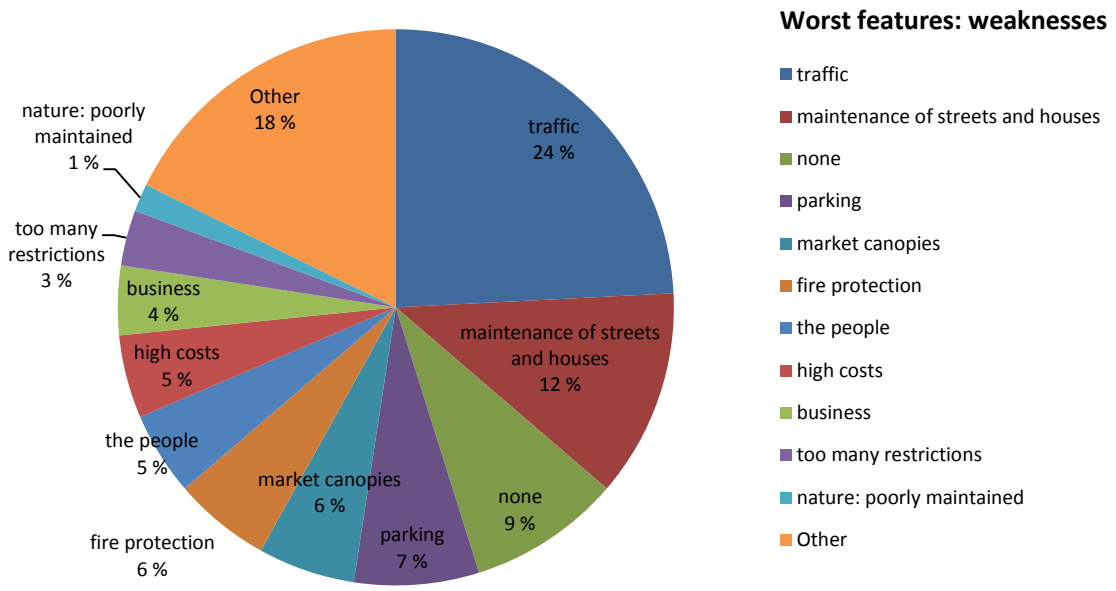


Figure 31. The identified worst features of Old Rauma

The worst features of Old Rauma were mainly related with the traffic in the area (24% of the respondents) and the maintenance level - (12%). Inefficient fire protection and the attitude of the local people that are either excessively elitist or not involved in the activities of the town and community were also considered as weaknesses. The changes that were envisioned as

improvements for Old Rauma were dominantly (35%) oriented toward changing the traffic and parking policies in the area: more affordable parking places for the locals and less traffic on the streets. It seems the residents feel the town is a convenient tight space where everything is within reach and at the same time undersized in terms of traffic requirements. They desire the cars to be removed from the streets, restricted access to the historic area and at the same time affordable parking places for the locals. One solution could be restricting the access to the residential area for non-residents and providing multi story parking places outside the historic area but within the buffer zone, within a reasonable walking distance from the historic area. The cobblestones are viewed as both an element of specificity or value for the site, as well as limiting in terms accessibility especially for people with mobility impairments.

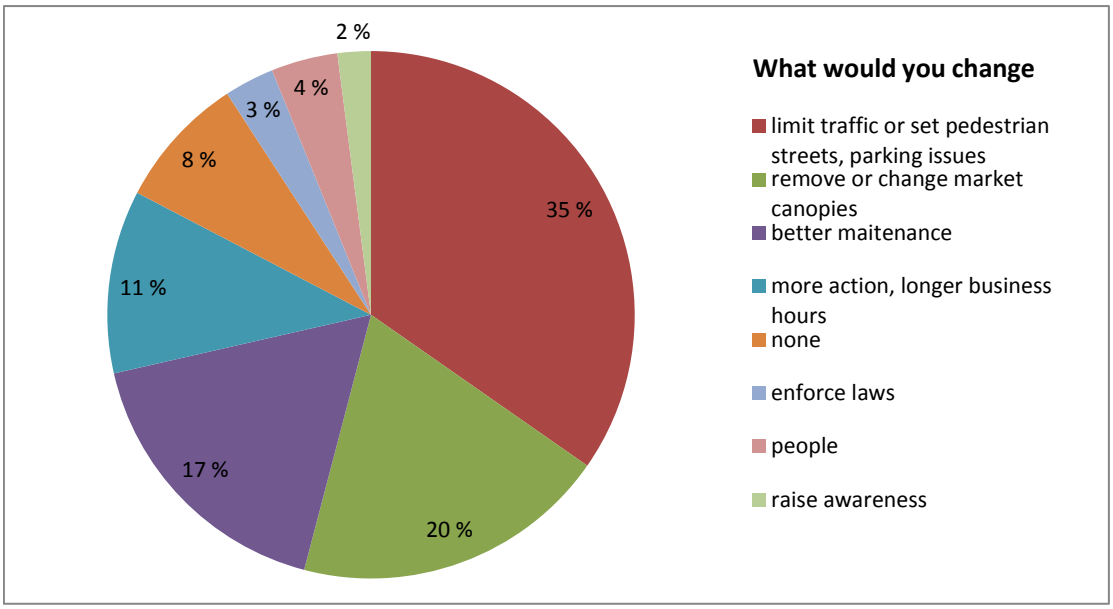


Figure 32. *"What would you change in Old Rauma?"*

Another weakness people feel should be changed is the design of the main town market: according to 20 % of the respondents the canopies are intrusive and disturbing, lowering the authenticity and the experience in the area. 10% of the respondents argue that Old Rauma should allow longer working hours for existing stores, addition of businesses on the commercial streets

are needed, as well as more grocery stores and general stores for the locals. More events and a lively centre operating outside the working schedule are regarded as necessary.

The third part of the questionnaire was aimed at getting a general image on the consumption behaviour, especially in terms of restaurants and cafes, as well as on the type of activities preferred for the leisure time. More than 50% of the respondents go out, either for a coffee or at a local restaurant, whenever they have the time on a weekly basis. 30% go out at least once a week. In terms of spending their free time, the results show the introverted nature of the town reflected in its pattern of use: people prefer to spend their free time at home or in their

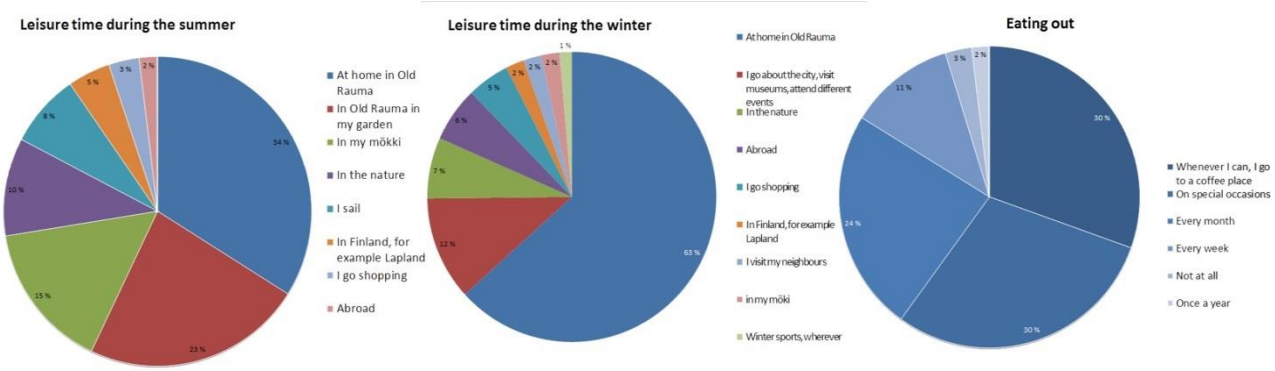


Figure 33. Pattern of use: how the users of Old Rauma prefer spending their leisure time;

garden during the summer[621]. They tend to divide their free time between their houses and summer /winter cottages. Very few opt to spend their holidays abroad, contrasting to those who would rather spend their free time in the nature, in Finland. This shows the potential to link several natural resorts and historic towns in a system allowing the connectivity and easy access between regions. It also underlines the introverted nature of Old Rauma today, as most of the inhabitants prefer to spend their free time indoors, in the privacy of their own space. The quality of urban life for the local community should be therefore given special consideration.

Overall (Figure 34. *Old Rauma as a World Heritage Site.*) more than 50% of respondents feel that Old Rauma's value and uniqueness justify its inscription as a WHS, and an additional 16% feel the nomination has helped and will help the maintenance and protection of the site; 11% do not have any feeling regarding its nomination, which in itself warrants the value of the site: the nomination is not what gives the site its value, but rather it validates the existing value. 6% feel that it makes no difference whether the site is a World Heritage Site or not since its specificity and uniqueness has nothing to do with its internationally perceived value.

[621] During the summer 34% of respondents spend their free time at home and 23 % in their garden. During the winter 63% of respondents spend their time at home.

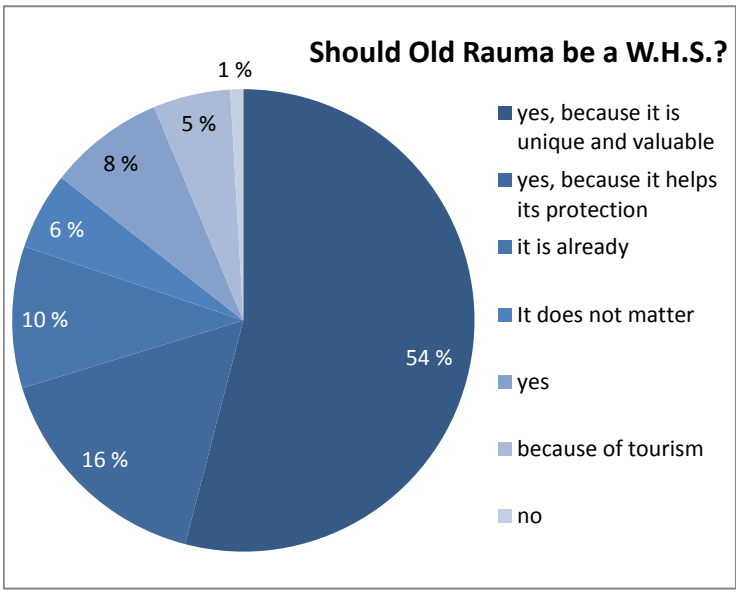


Figure 34. Old Rauma as a World Heritage Site.

The Outstanding Universal Value, the differentiating values and characteristics of Old Rauma are those that easily stand out from any brochure, internet site, first time visit to the site. It is interesting to observe how close the Outstanding Universal Values are to a brand image: "Brand image is the totality of perceptions resulting from all experience with and knowledge of the brand. It is how consumers perceive the brand."[622] According to Anna Klingmann[623], a city brand needs to be recognizable, singular, unique and therefore outstanding.

The universal value "can be seen in the authentic (true) creative expressions of specific cultures"[624] while the outstanding is the "most representative example" therefore implying superiority of the selected example, at least in terms of representativeness. For cultural heritage sites, uniqueness is expressed in diversity, while the outstanding should be viewed in relation to the criteria of selection. It is clear that, generally speaking, there is a relation between the outstanding universal value of a historic urban landscape and what could be defined as its "brand". O.U.V implies the superlative, most representative and specific cultural expression and therefore could function as the brand. The relation is, however, not reciprocal: the brand is more intimately related to perception and how the user experiences the place and less related to the idea of most representative. The specificity of H.U.L, as well as the O.U.V. of its historic urban area, can be used as a brand for promotion by ensuring that the experience of the place highlights the characteristics of O.U.V.

For Old Rauma the specificity of the place, usually expressed through the statement of Outstanding Universal Value[625], is indissolubly related to the built environment: the small wooden residential architecture. However, the specificity is not fully expressed since the intangible elements are not equally considered alongside the tangible.

In terms of branding and perception, the elements that are perceived by the users as valuable are the street typology and streetscape, including the facades of the main buildings.

[622] Van Auken, Brad. Understanding the Language of Branding. 2003 available at http://theblakeproject.typepad.com/Chapter2.pdf
[623] Klingmann, Anna. Brandscapes. Architecture in the Experience Economy.2007
[624] Jokilehto J. 2006, World Heritage: Defining the outstanding universal value. City & Time 2 (2): 1. [online] URL: http://www.ct.ceci-br.org
[625] "an outstanding example of the traditional wooden architecture and urbanism in this part of Europe, and one of the most beautiful and extensive of all those that have survived to the present day." http://whc.unesco.org/en/list/582 (last accessed March 2014)

Therefore in terms of preservation, these elements which are visible or accessible from the public area are the ones given most care and attention.

Integrity and Authenticity in Old Rauma:

The authenticity and integrity of Old Rauma have been preserved to a great extent, as it has already been discussed in the previous chapters. These characteristics of the site justified to a certain extent proposing Old Rauma over Old Porvoo as a World Heritage Site. Old Rauma is one of the most complete and authentic historic towns of Finland. As the local community has endured, the issue of intangible values being lost to gentrification doesn't really pose a threat to the site on a short term. However, it is interesting to see that most of the traditional residents of the town are attached to the idea of a 18th century Old Rauma rather than a historic urban landscape where the historic coexists with the contemporary. There is a risk of losing the authenticity of the living city for the preservation of an "ideal 18th century reality". This would not be authentic or desirable.

Image 49. Street paving in Old Rauma. Picture by Anca Dumitrescu 2011.

Strong Points and specificity in Old Rauma:

The strong points have been identified by both professionals and local users. The coherence and scale of the place, its centricity and functional diversity are amongst the strongest traits of the site. Continuity in living, activities and a tightly-knit community where people know each other has been one of the strongpoints of the site, allowing it to be maintained in its integrity.

The tangible heritage: the wooden material substance, historic architecture and urban structure are clear elements of value for this historic urban landscape, and their continuous use and maintenance have been ensured by the strong traditional practices preserved by the community. The attachment felt by the community to the tangible heritage and their understanding of the site are amongst the strong points enabling the protection of the place outside the regulated framework.

One of the weak points for Old Rauma as a Historic Urban Landscape is the understanding and definition of its historic borders. The protected area and its associated buffer zone need to be redefined, at least in terms of the connections between them. Enhancing the access and understanding of the transition toward the protected area should be made considering the integration of the historic area in the contemporary urban fabric, as well as the urban continuum. On the western side of the site,

toward Savilankatu, the limit between protected area and the rest of the town is marked by the contrast between the different visible layers of the town: the modern movement contrasts the historic wooden buildings in style, materiality, height, scale, and granularity. Toward the east, the two major entrance points: the Kalatori as well as the historic Eastern custom gate entrance behave like secondary or tertiary spaces in terms of the level of maintenance of the street paving, buildings facing these entrance points, quality and level of maintenance of the urban fittings in these areas as well as their functional use. The area now defined as the buffer zone has been considered[626] as an area of mitigation, of transit between the historic core and the rapidly developed layers of the 20th century. However, it is now subject to development pressures and densification of its urban structure. Vegetation and re-connection to the elements of value: the water front, the Canal, the Rauma River could be employed to facilitate a more gradual transit between layers, as they are also viewed by the users as integral and valuable components of the landscape. In this case, using the green areas in the buffer zone as binders between town and city will not be historicist measure, but rather a measure to enhance the already existing values of the site, to develop the connection within the landscape.

III. Risk assessment and risk preparedness

At a national scale Old Rauma is recognised as one of the most valuable cultural sites. Although the Outstanding Universal Value accentuates those characteristics and values that differentiate the site from all similar places, making it unique, it also risks overlooking those aspects that fundamentally contribute to the "*"genius loci"*" but perhaps are of lesser universal relevance. Amongst these aspects and element which deserve being appreciated for their historical role and relevance and which support the outstanding characteristics of the site a few are worth mentioning: the canal, the spatial and functional connections with relevant surrounding areas and buildings, the lifestyle and traditions preserved by the local community.

Streets and border lines:

The overall value assessment of the streets is made considering the age, the transformations and the functions along the streets. The street profile, materials and textures are considered equally important. However, the street in terms of materials and substance authenticity is probably the most vulnerable and volatile component of the World Heritage Site. It is most exposed to wear and tear, and most of the town's equipment, including electric lines, water mains and street heating, are placed under the street. The street, including the pavement can be considered only in terms of geometry, structure and texture and not in terms of age of the material substance, although its perception influences the authenticity in atmosphere.

In terms of authenticity the pavement of Old Rauma ensured a coherent approach to both traffic as well as the paving material itself. Although cobblestone has not been used historically in Old Rauma, it serves as a better option than contemporary paving of the streets, while the workmanship resembles that used in other historic towns such as Porvoo or Turku. The rough cobblestones used on the roads discourage vehicle traffic on the side roads, while maintaining a historic appearance of the streets. This, however, also limits the accessibility of certain users and diminishes the comfort of pedestrian and bicycle traffic in the area. The streets fulfil with historic

[626] Lars Sonck's town plan 1915

accuracy their purpose: functionally, both in terms of traffic limitation as well as ensuring the proper storm water discharge; in terms of texture. However, there is a conflict between accuracy in terms of historic texture and materials and the accessibility requirements of contemporary life: the pavement also poses a safety hazard for disabled or elderly people, the last of which make up the majority of the local community.

The main streets of Old Rauma, Kauppakatu and Kuninkaankatu, combine both vehicle and pedestrian traffic, without a clear delineation of the priority either of these flows has over the other. In 1999 it was decided that these streets and their junctions outside Old Rauma[627], are the most dangerous areas in Rauma, with their accident incidence over the Finnish mean.

Map 51. Parking in Old Rauma and accidents' incidence. Source: Rauman keskustan kehittäminen:1999, Town plans 2010

According to a survey conducted at the same time, 70% of respondents considered that these streets should become pedestrian areas, while only 40% of the entrepreneurs supported the idea. The pressure of the big shopping centres situated around Old Rauma, coupled with the need to support small businesses within the town meant that a compromise had to be made, allowing vehicle traffic in the historic area. However, this remains a problem both in terms of site safety as well as authenticity in atmosphere.

In terms of parking, the same study pointed[628] out that 40% of the car drivers parking in Old Rauma would chose a parking space on the street close to their destination -usually along the shopping streets- rather than park in a designated parking area. This clutters the streets and decreases the urban comfort in the central areas.

Connectivity with other major national and international cities is another issue. Currently the most convenient way to get to Old Rauma is by car. The public transport to and from Rauma

[627] Rauman keskustan kehittäminen 1999. p.31-32
[628] Rauman keskustan kehittäminen 1999. p.35

relies exclusively on the bus connections. Overall, given the frequency of the rides and travelling time required to get to and from Old Rauma, using the public system, it can be concluded that the town is not adequately connected to any major connection hub, national or international.

The communication strategy from a touristic perspective is at the moment satisfactory. Old Rauma is present online and in the social media. In terms of available information, there are clear multilingual information points and brochures available. However, the communication strategy is not correlated with the visitor's profiles, routes and visiting patterns. It is important not only to have available information for the stakeholders, but also consider the type of information available, as well as where and when it is provided. Access to the site and main public places should be correlated therefore with the communication strategy. Information points, visitor centres, signal posts could be considered not only in the main parking areas, but also in the bus stops, and on the main roads leading to Old Rauma. Minimally intrusive signal posts can be considered, as well as the development of modern technologies, research programs focused on involving modern technologies and social media as means for information, presenting and promoting the site directly on the user's phone. A better communication platform needs to be developed for the users of the place, allowing all local stakeholders involved to express themselves and inform the authorities of issues that may affect the area. One of the main weaknesses of the communication strategy refers to the involvement and dialogue between different groups of stakeholders, which is close to inexistent. The information is usually unidirectional and there are no platforms for public dialogue available that would bring together all stakeholders.

The threats[629]:

When dealing with threats to historic urban areas viewed from the Historic Urban Landscape perspective, there are several common issues with influence on the historic substance and that generally need to be addressed. The first type of threats is a result of the direct interaction between stakeholders and heritage.

Physical damage refers to all physical damage brought to the property through the occasional or repetitive action of man, and which threatens the values, integrity and/or stability of the heritage object. It can refer to excessive wear and tear due to intensive use[630], to accidental occurrences resulting in damage of the historic substance -scratches, bumps, and dents from involuntary actions. For wooden objects this relates to breakage of friable historic elements where the wood has become brittle in time. In Old Rauma physical damage can be seen in those elements which are frequently used and are also exposed to the elements: entrance gates, door elements: frame, threshold, door leaf, windows around hinges and lock systems, stairs and rails.

[629] using as a guideline Threats to World Heritage Sites 1994-2004: An Analysis. ICOMOS. May 2005. (available at http://www.international.icomos.org/world_heritage/Analysis%20of%20Threats%201994-2004%20final.pdf)
[630] Cumulative damage from wear and tear

Image 50: Physical damage in Old Rauma. Pictures Anca Dumitrescu 2012.

Vandalism is related to physical damage, but the major difference consists in the voluntary nature of the damage. It can vary from breakage, painting, throwing corrosive substances on historic materials, arson, to other forms of deliberate damage. Vandalism is often associated with theft, since they both are deliberate in nature, result in loss of heritage value and are often complementary. Since Old Rauma has a strong-knit community, vandalism from within the community is exceptional, and is not threatening the site's values. Vandalism coming from stakeholders outside the community, such as non-residents, tourists or visitors is not an issue at the moment but could be considered if the vision for development will focus on tourism. The density and dynamic of the place doesn't encourage vandalism since there are few areas left without public surveillance. However, sensitive places such as museums, the church, exhibitions open to visitors should benefit from protection against theft. This may include alarms and motion sensors, cameras and pressure sensors depending on the importance and value of the objects on display.

Pollution and chemical threats have two major causes: functions or activities involving corrosive or otherwise damaging chemical agents placed within the site and directly affecting the property, or indirect actions of chemical agents brought into contact with the heritage objects through air or rain water. Sulphur dioxide resulted from industrial processes is especially destructive and is generally linked to coal burning and car emissions. Especially in cities where the air quality has been greatly affected by human activity, traffic, or chemical processes, the effects are clear on the facades and other elements exposed to the elements. In Old Rauma the quality of the air is not currently a problem, and the industrial layers and activities are situated at a considerable distance from the protected area, which significantly reduces the impact of any

chemical damage. However, the quality of air and rainwater could be analysed periodically within the historic area in order to maintain a level of safety and control the air purity.

Fire has been a constant threat for most wooden towns in Fennoscandia. In Finland, and the Nordic countries in general, the responsibility for ensuring fire protection of heritage is divided between local authorities and homeowners: the latter is responsible for safeguarding their property, while the local authorities are responsible for safeguarding human life and for the rescue services[631]. This often means that the buildings and heritage values must be rescued before the fire brigade appears, since the protection of the property is not their main concern. For Old Rauma it is essential to provide homeowners information, solutions, and economic incentives that would allow them to choose the best fire protection system for their needs and for their property. In Finland, smoke alarms are mandatory by law[632], but sprinkler or water mist systems are not. The price is a major impediment for the general adoption of these systems. Old Rauma, unlike Lillehammer or Røros in Norway[633], did not find the appropriate legal and incentive systems needed for the implementation of technologically advanced fire protection systems in residential buildings. Most buildings in Old Rauma, including commercial or public buildings lack efficient firefighting systems. Studies showed that in Old Rauma "the most common cause of fire was a drunken person smoking"[634] in relation to overcrowded depositing areas, courtyards or unattended properties during the night. Faulty electricity systems were a cause of fire, but most electric systems in Old Rauma have been renewed and changed. Fireplaces and stoves are known to be fire hazards and therefore are treated with care. It was concluded that fire inspections should be carried out regularly, every three years.

In Røros- Norway, or most of the heritage sites in the United Kingdom[635], regular and surprise fire drills as well as a tight collaboration between firefighter teams and heritage communities are part of the measures aimed at a better fire prevention. In Old Rauma, fire brigades and local fire authorities should be involved in the protection of heritage, by being properly informed on the value of the site, carrying out periodic fire drills, checking fire protection systems for both public as well as private buildings. Homeowners should at least benefit from a periodic fire preparedness program organized together with the local fire authorities, and which could supplement the leaflet where maintenance and basic fire protection measures are presented.

In case of a fire, proper equipment on site, providing access to the buildings for the fire brigade, availability of water or other fire extinguishing substance. Recovery of remains and materials after the fire, as well as documentation after -and if possible during- the fire, can prove invaluable for subsequent restoration work.

A person responsible for fire emergencies -able to give a fire hazard emergency response at any time, should be appointed on site. This responsible should be aware of the site's

[631] Fire rescue Act, Pelastuslaki 468/2003 art 22, available online at http://www.finlex.fi/fi/laki/ajantasa/kumotut/2003/20030468 last accessed February 2014.
[632] Idem. art. 29.
[633] in Røros Riksantikvaren, as the State Party's official organisation in charge with heritage protection, undertook all major works and funded the fire protection plans as well as fire protection measures carried out throughout the World Heritage Site. The project and research, finished in 2004, proved a success.
[634] Laurila, Anu, ed. 2004. Can We Learn from the Heritage Lost in a Fire? Helsinki: National Board of Antiquities. p.13 http://www.nba.fi/fi/File/113/paloturvallisuusjulkaisu.pdf. last accessed February 2014
[635] The fire safety and protection plans, part of the Disaster mitigation plan for historic buildings, note the neccessity of periodic firedrills for most heritage sites in the United Kingdom

configuration, hierarchy of valuable heritage, should be able to mobilize and organize volunteers in case of an emergency.

In terms of **museumification or museification**[636]**:** Old Rauma is vulnerable as some of the stakeholders, mainly the local users, identify one of the most valuable traits of the site as being "open-air museum". The enlistment as a World Heritage Site encourages this type of attitude, since the layers considered most unique and valuable are latest the 19th century layers. However, some of the buildings in the inner courtyards are built of modern materials and exhibit modern elements: double glazed curtain walls, modern doors, and concrete structures. Therefore, there is a duplicitous process where museification manifests predominantly in the public spaces and on the street facades of the main buildings, a conservation process aimed at preserving forms devoid of contents. At the same time traditional functions, small shops, specialty stores are being displaced and replaced by touristic shops and by "more efficient and contemporary" supermarkets situated in the buffer zone.

Museification in Old Rauma can only be limited by encouraging the life of the city: adaptation to the small scaled functions, understanding that in order to maintain a small scale historic town with its significance, the people living there must follow a small-town lifestyle typology. In this case only by maintaining the life and significance can one protect the substance and tangible values.

Map 52. Old Rauma plan of the recent changes of the historic fabric. Source: Conservation architect Kalle Saarinen. Interview 2013, : Rauman keskustan kehittäminen:1999

[636] both terms have been used throughout the paper, bearing similar meanings. However, 'Museumification' tends to over emphasise the process concerning conservationist excess turning living objects into antiques, whereas 'museification' is used to define the effect: the functional object becomes a museum exhibit.

Over-restoration is closely connected to museumificatiom, is associated with direct intervention of the owner on the property as it is also promoted or allowed through planning regulations. In Finland in general and Old Rauma in particular, there have been a series of recommended means of intervention on historic properties. The recommendations for the repair and maintenance of Old Rauma's houses deal, in their great majority[637], with treatments for the facades, doors, windows and paints. Over-restoration is a facade problem with two separate manifestations: over-restoration=stylistic restoration and over-restoration=loss of patina.

Looking at the dynamic of change in the town, it becomes apparent that the general attitude is to conserve and maintain the main facade of the buildings facing the streets, while more changes had been allowed for the buildings within the plot or courtyards. This attitude is legitimate in terms of ensuring the preservation of the authenticity in atmosphere and the overall 19th century appearance of the most valuable and functionally diverse areas: the market square, Kuninkaankatu and Kauppakatu streets. However, when buildings are being reverted to a 19th century state that has not been documented, using building components that, although authentic, do not originate from those particular buildings we are dealing with a falsification of history. Over-restoration in this case means loss of authenticity by means of stylistic restoration.

Traffic and increase in traffic, poses a threat not only to the authenticity of the place, quality of the visitor's experience and quality of life, but it also threatens the physical integrity of the houses situated closest to the main roads. Due to constant vibrations, cracks can appear in the foundations and structural elements of buildings, threatening the stability of the buildings. Several residents living close to the main roads have already observed the negative effect of traffic vibrations of their property. Cracks on the main facades, joining elements and to the foundations should be monitored and assessed. Dynamic cracks need immediate attention especially when they are discovered in joining elements and foundations since these can destabilize the entire structure. Since Old Rauma is generally situated on sandy moraine, the deformations and tilting of the foundations due to differential settlement of the foundations is to be expected. However, traffic vibration can potentially aggravate these effects.

Traffic and **parking** are still problematic on the main streets: Kauppakatu and Kuninkaankatu. As the vehicle pressure in the cities increases globally, it will continue to be an issue to be debated and improved for both town and city. Since 1999 issues such as: the pedestrian crossings and pedestrian traffic, the lacking of bike lanes, the vehicle traffic inside the historic area, the overall low comfort in traffic, the parking places and their position within the site, local transport systems and bus stops in relation to Old Rauma, have been considered and gradually improved. Street paving has been adapted to the traffic strategies adopted, nowadays encouraging traffic on Kuninkaankatu but discouraging it in the rest of the area. The speed limit in the historic area has been reduced, as it has been shown that impact at speeds over 40 km/h drastically increase the probability of serious injuries or even death[638] The electrical supply points for electricity powered vehicles have become more usual in the Finnish cityscape. In Old Rauma these facilities have not yet been adopted as they would be disruptive inside the historic area, although they could be provided in the parking areas around the historic area. This might risk becoming a contradictory attitude, against the integration of the historic area in the contemporary urban structure, as it may stress the difference between the historic within and the

[637] 5 plates out of 11 as presented in Vanha Rauma = Old Rauma. 1992. [Rauma]: Rauman museo. p 54-76
[638] Rauman keskustan kehittäminen 1999. p.51

contemporary urban area outside. There is a conflict between preserving the authentic atmosphere of the historic area and integrating the area in the wider contemporary network.

There are difficulties in reaching a balance between, on the one hand the commercial and functional advantages of allowing car traffic inside the protected area, and maintaining the authenticity of the place and the atmosphere of a small scale town on the other. Generally the residents of the protected area favour the idea of restricting the general traffic, while most of the shop and business owners argue that vehicle traffic is indispensable for the commerce in the area. Authenticity in atmosphere and comfort in using the public spaces are therefore opposed by functional continuity and dynamic. Especially considering the commercial pressure exerted by the department stores proposed in the immediate vicinity of the protected area, maintaining vehicular traffic in the area becomes necessity. At the same time discouraging transit traffic through the historic area is important for both safety and comfort reasons. Human safety is a point of concern, as it has been proven that certain areas of Old Rauma are not designed for vehicle traffic and the number of traffic accidents resulting in casualties is bigger than anywhere else in Rauma.

Since 1991 several studies have been carried out considering both traffic as well as paving solutions, and cobblestone was considered the optimal solution for limiting traffic intensity and lowering the average speed in the area. However, starting with 2010 up to the present day, on several of the main streets, where the casualty count was initially highest, the pavement was once again replaced with asphalt in order to encourage traffic. This, coupled with the position and relation of the parking areas to the main public areas of the town, reduces the attractiveness of the place. The residents are unhappy with the atmosphere and traffic in their town, the visitors cannot enjoy the experience and focus on the architectural value of the place for fear of being run over by cars. Ultimately the shopping experience is disrupted on the main commercial streets by fear of one's own safety. Bringing together home owners and tenants, business owners, site administrators and professionals in charge with preserving the historic area could result in a traffic and parking plan that would optimally answer the needs of the site and of the stakeholders.

Provided services for users, tourists and visitors should be well placed within the protected area and the buffer zone. Proximity, flow, legibility and providing the appropriate information when and where it is needed is important for a site as big and as complex as Old Rauma. Although it is recommended to place the information near entry points to the site, visible from the points where visitors are left by the transportation means they chose: bus or personal car, in Old Rauma these points are often missing or are inadequately marked. The basic facilities for tourists are the general information point, cultural information points, hotels and accommodation in the area, food points: restaurants, fast foods, cafes; shops, some of which are not very visible or well connected to the WHS protected area.

Currently some information panels are placed in the parking lots of the site, but they are insufficient for first time visitors that have very short stays planned. Information about accommodation, restaurants, museums, cultural values should be available on site. There are a few points that function as information points: in the museum, the old city hall and the public library inside the department store right on the edge of the historic area. Although all of these are useful, they are not easily accessible for the first time visitor.

Accommodation does not have to be provided inside the protected area, but proximity to the points of interest as well as transportation means should be considered. A hostel 10 kilometres away from the site, away from all transportation networks is clearly aimed at low

budget tourists coming by car from other Finnish cities, but is not available to tourists coming by bus.

Intangibles:

The major threat in terms of intangibles is the displacement or loss of traditional users and traditional activities. In Old Rauma the local dialect is a strong presence, but it still needs to be maintained and cultivated as an element of specificity. Encouraging the use of the dialect in both written and printed form as well as teaching the dialect to newcomers could help maintain the linguistic specificity of the place.

Overall, the intangible values are not being considered interconnected and interdepend with the tangibles. It is not always clear that, in order for the cherished wooden facades to be properly conserved, there is a need for a trained working force available on the site. In order for the conservation work to be affordable by the community, funding programs need to be set in place, linking foundations and administration to the qualified available working force and to the production of adequate materials for conservation. The traditional way of obtaining, processing and using traditional materials require the use of knowledge and expertise that are part of the intangibles associated with a place. Some tangible elements such as traditional massive parquet or traditional roofing systems require traditional materials and workmanship that are often difficult to come by in Finland. In addition, there is always the question of where to get the needed raw material from, how to process it in accordance with traditional techniques, who can process them and set them into place, and ultimately how much it would cost. This process is too lengthy, complicated and costly for the individual homeowner to tackle with, and without the active support of the local authorities it is clear that it risks being replaced by contemporary prefabricated solutions. The loss of material authenticity in this case can be linked with loss of intangible values – namely the knowledge of traditional building and repairing methods, but also with the unavailability of traditional materials and traditional building systems.

Loss of traditional activities is a problem most historic places face in an era of globalization, when contemporary, "modern" activities replace the traditional ones. In Old Rauma the overall value of heritage is influenced by the intangibles and lifestyle of the community. In direct connection to physical heritage, skilled craftsmen, carpenters and smiths should be encouraged to collaborate with local conservation bodies. Traditionally, Finnish men knew how to fell trees, had basic building skills including how to smooth out walls with adzes. Some Finns still have woodworking skills, but not at the level required for the repair of traditional structures. Aside from the crafts traditionally associated to Rauma, which have naturally evolved or disappeared: shipbuilding, shoemaking, and so on, there are building skills, enabling the repair and maintenance of wooden structures, which are also slowly disappearing. In terms of traditional activities and crafts, the major risk is they are not always lucrative in the context of the current economy. The general tendency is to adopt and change profesions according to what is most practical and efficient - also lucrative.

Maintenance and conservation of wood

Old Rauma is a historic urban landscape made predominantly out of wood, subject to specific threats; the materiality of the place is affected in a particular way common for the entire property.

The periodic maintenance of the wood and of the building facades is essential for maintaining the visual authenticity and the authenticity in atmosphere. In Old Rauma small repairs and maintenance like clearing the clogged ventilation and gutters, making sure humidity and water infiltration are being controlled and eliminated where necessary, making sure that only compatible materials are used together, can reduce costs for extensive conservation work. One of the major risks is that properties are not being actively used and periodically checked by their owners.

Poor maintenance affects the atmosphere of the place, the image of the place from a commercial, touristic or marketing perspective, but can also indicate underlying structural problems. The dusty, broken windows and peeling paint can be used as an indicator that the roof or the foundation of the house haven't been checked or maintained in a long time, in which case water infiltration or biological attack could be already a problem. It is possible to propose programs aimed at promoting good maintenance at least once a year and promoting community benefits as incentives. Houses in private ownership are the ones generally affected by the lack of maintenance, in contrast to the properties in commercial use, where the incentives motivate the business owners to look after the buildings. The difference in maintenance is clear when visually comparing the care for the main facades of the commercial buildings with that of the facades found on the same property but toward the back of the site, or when comparing the facades of the businesses and those of privately owned houses along the same street.

Moisture and water infiltration is one of the most evident and most frequent cause for decay in Old Rauma. The most vulnerable elements to water damage are those directly exposed to the infiltration of water: the roof, the basement, panels exposed to the rain, profiles on the facade where rain water keeps. Infiltration through absorption occurs in most wooden components in direct contact with wet surfaces: exterior cladding, profiles and moulds that retain water[639]. Providing the buildings with functional gutters, rain pipes and draining systems with the appropriate geometry[640] can help solve this problem. Periodic maintenance should ensure that these components are kept in a functional state.

Professionals working on site[641] have confirmed the prevalence of water related decay on the vertical walls most exposed to the elements and toward the base of the walls. The frequency of repairs needed for the vertical wooden structures is by far greater than repairs needed for roofs. However, the roof and foundations are the components having most impact on the accelerated decay of the property, and directly affecting the structural stability of the entire ensemble.

Biological threats for wooden structures generally refer to mould, fungi, beetles and rats. Together with water infiltration they are part of a decay cycle almost always ending in the complete destruction of the property. Mould and fungi spores are present in the air and on the surface of the wood. In Old Rauma some exterior components show the specific blue-black surface traces of mould that disappear once the façade is exposed to the light radiation during the summer. It is only when the relative humidity rises above 65%, during the spring and autumn that the moisture content of the wood becomes hospitable for the mould spores to develop. For Old Rauma mould is a problem if it develops inside the properties, since it is a potent allergen. The

[639] Based on field observation and repair reports available in Tammela, Old Rauma.
[640] tilted away from the wooden structure
[641] Conservation architect Kalle Saarinen from Tammela during several discussions concerning Old Rauma and conservation on site.

conditions for the apparition of more dangerous fungi is a moisture content of the wood of over 18 - 20%, relative humidity over 65%, temperatures over 10 degrees Celsius.

One of the indications of developing mould fungi, algae or plants is a discolouration of unpainted surfaces, a direct consequence of the degradation of the wood cells. This can be seen in the interiors or on the underside of the otherwise painted cladding material for the façade. As it has been discussed[642] cellulose and hemicellulose in wood have a white colour, while the pigment of the wood -the brown tint- comes mostly from the lignin. Coloration can expose in some cases the type of biological attack[643].

Generally biological attack is difficult to assess from the exterior. The property owners are the ones that can trace the first signs of biological attack: staining, discolouration, smell, change in elasticity of floors when stepped on, changes in the surface temperature of walls, increased number of dead insects grouped in specific areas of the house. The owners are the first to inspect the areas most prone to decay: basements, roofs, interior corners and joints of the house. It would be useful to elaborate a procedure that would encourage and stimulate the homeowner to carry out these inspections at least once a year, submitting a report to the responsible authorities.

These physical threats can be limited by improving the inspection system of properties.

Image 51. Flooding in Old Rauma 1905, and august 1906. Source: Rauman museo, Image code: RMK3, RMPK9367

Maintenance in this case should involve a series of preventive measures aimed to ensure the preservation of the historic substance, within a timeframe and with a periodicity discussed and agreed upon by the specialists and homeowners. For some threats like moisture and water infiltration a periodicity of 4 to 6 months can be satisfactory, whereas fire protection plans can be re-assessed and tested annually.

Flooding: is a problem for most harbour cities, given the current sea level rise. Due to the land uplift around the Gulf of Bothnia, Old Rauma and Finland in general has little to fear in terms of the rise of water levels. However, flood has affected this World Heritage Site on several occasions, altering the quality of the apparent materials and triggering biological attack. Structural components cannot be removed or protected once floods occur, such as the one from 1906. However, the English flood prevention methods could be used as a model and starting point for

[642] Chapter 3, section: "Wood as a material and element of specificity".

[643] Brown rot completely consumes the cellulose leaving only the lignin behind. The structural stability and strength of the wood are completely compromised in the affected components, while the lignin left behind exhibits its typical brown coloration. White rot in contrast affects both cellulose as well as lignin, therefore the coloration is not as predominantly brown. Release of the water in the cell structure is why this type of rot is associated with very high humidity levels.

emergency plans implemented in landmark buildings and museums. For example since the flooring, lower wall parts and furniture elements are the ones most affected by flooding, pulley systems could be employed to raise valuable movable components over the water level, all the way to the roof.

Fragmentation for Old Rauma refers outwards to the segregation between the historic town and the rest of the city, and inwards to the fracture between the historic layers and atmosphere given by the main facades in the public areas[644]. As previously stated, the components which are given most attention in terms of conservation and maintenance are the facades; this threatens the integrity of the buildings and their coherence. At an urban scale, the integration between the historic and the industrial, between the town and the city of Rauma is problematic both in terms of formal coherence as well as in terms of significance.

Functional fragmentation is another aspect with impact for the built environment. One of the most radical and immediate threats to Old Rauma is, and has constantly been since the 1960s, the development pressure from various investment opportunities. In the 1960s these opportunities threatened the very core of Old Rauma, proposing the destruction of the wooden heritage and its atmosphere with the insertion of multi-storey, "efficient" and "modern" buildings in the heart of the historic town.

The nomination of Old Rauma as a World Heritage Site sought to accomplish, amongst others, two major tasks: acknowledging the site's value internationally and ensuring its protection within its most relevant historic boundary – the custom's fence. For every state member that adhered to the World Heritage Convention, it is clear that the significance, value, authenticity and integrity of all components found within the protection area of the World Heritage Site, must be protected by all means available. However, the rules do not apply similarly to the buffer zone, which in this sense becomes more vulnerable to threats. A weak buffer zone is indirectly threatening the integrity of the protected area itself. For Old Rauma, the scale of the site, the atmosphere, the dominant materials and detail typology are among its distinguishable features. The vistas along the streets while visiting the area, as well as the images unfolding as one approaches the site are equally important, and should sustain the image of a small scale town.

In this sense Old Rauma is particularly sensitive to development projects that introduce out of scale buildings in the buffer area or inside the important visibility corridors. Out of scale can mean both horizontal and vertical dominance. Tall buildings or block of flats within the buffer zone are a tempting development opportunity, but can prove severely damaging for the historic site.

In terms of function there have been a lot of discussions around the shopping centres proposed in buffer zone, in the immediate vicinity of the protected area. Old Rauma's main functions have been traditionally commerce and trade, developed in relation to the commercial harbour, the open air markets and market around the church. The open air markets and fairs are the first commercial environments found in Rauma that endured to this day. From the 19th century onwards, namely starting with 1861, small shops began appearing in the urban environment, adapting to the urban scale and use patterns of the community. Small scale and variety are common traits of the traditional Rauma stores. On the other hand urban planning and the attitude towards commerce have evolved in Finland to accommodate the urban ideals of large

[644] Especially when the atmosphere suggested by the façade facing the street is not sustained by the additions and facades of the outbuildings placed to the back of the plots.

shopping centres and malls. Most commercial activities in Finland's cities are nowadays tailored to include these large indoors markets. When the first large scale shopping centre was proposed in the buffer zone of Old Rauma, the resulting duality in function and contrast in scale, among other things, were received with a degree of opposition by the local community. Arguments against such an investment project relate to the specificity of Old Rauma. The open market combined with the small specialty shops specific to Old Rauma are in stark contrast with the large scale shopping malls. The latter, through their size and interior dynamics, resemble small commercial cities in themselves. It was believed that the sales of the small stores would decrease and the commercial life of Old Rauma would be under threat. Years later, it was observed that from a strictly economic point of view the supermarket did not have the expected impact on the sales in Old Rauma. However, it did set the precedent that this kind of investment is possible and potentially profitable within the buffer zone. Nowadays, based on this already created precedent, new large scale shopping centres are being proposed in the buffer zone[645]. The difference in shop typology, building scale and height, general atmosphere, will set Old Rauma apart from the rest of the city, and will completely fragment the urban structure. In this case the major threat is the definitive rupture between Old Rauma and its surrounding environment.

In terms of fragmentation between historic town and contemporary city, the historic layers in Old Rauma reflect, in their great majority, the history of the area prior to the industrial age. Many of the buildings of the 20th century are overlooked when considering the protection of the site[646]. In some cases, the decisions taken emphasize all historic layers, but in others the replacement of facades or buildings risks erasing layers from the fabric of the city. Sometimes the modifications of a building's mass, roof, façade texture or openings is considered the best solution for the building's integration in the historic area, although this means denying its historic authenticity[647].

645
http://www.satakunnankansa.fi/Kolumnit/1194875699142/artikkeli/kauppakeskus+rauman+tarinan+vaikea+luku.html
646 Particularly buildings, layers and additions of the 1960s, 70s and 80s are considered disruptive for Old Rauma's cityscape.
647 As it is the case with the 20th century layers from the main market of Old Rauma.

IV. Strategies and plans for controlling change

In the context of the present research, the strategies and plans for controlling change refer to all management plans and strategies aimed to conserve or develop the site and its buffer zone, as well as any tourism plans and measures that can affect the site directly or indirectly. Ideally the measures and plans should be governed by the "vision" for the site.

The Vision:

The vision of Old Rauma should ideally be founded on enhancing the "*genius loci*" and be focused on strengthening the three pillars: development, conservation and tourism. The keywords that can be used to define the *"genius loci*" are: harbour -sea, authentic Finnish wooden heritage, Rauma townsfolk, and cultural variety. Considering the three pillars, for the next 10 years Old Rauma should: **conserve** its established heritage, improve the documentation and feedback procedures, integrate the intangible component to the conservation of the tangible, collaborate better with external volunteering organisations that can help in the documentation and analysis process, aim at encouraging the overall protection of heritage including the interiors and courtyards; redefine the buffer zone in terms of historical significance and **implement development plans** within the buffer zone that would consider vistas, specificities, heights, functions, granularity and the role of the buffer zone as an area of transit and integration between city and town; **attract more tourists** to the area focusing on **raising awareness** of the site and focusing on its characteristics as a cultural heritage site, in close connection to the nature and the sea.

The integration between the historic area and the rest of the city can be mediated through planned vegetation areas, walkways and generally enhancing the natural elements along the historic borders, where the protected area meets the buffer zone. The enhancement of the main entrance points should be also considered from a functional standpoint but also by maintaining a rigorous maintenance standard of urban elements. The views should be considered and controlled especially from and toward these entrance points – which are the key to the understanding and interaction with the entire protected area. Parks and greeneries can prove a strong binder between town and city, one that is underused today but that holds value for most of the users of the site.

Increasing visitor numbers to the site can result in an increase of income for the local businesses and overall economic profitability, but can also become a threat by disturbing the intimate atmosphere and increasing the development pressure in the area: bringing hotels, spas, department stores closer to the centre, as well as the wear and tear. An abrupt increase in visitor numbers will affect some of the characteristics that the local community holds in high regard, such as the peaceful environment, limited number of people, relaxed uncrowded atmosphere.
Connecting several historic towns from the adjacent areas can distribute the pressure of tourism, ensure a better connectivity within the larger area, increase awareness as well as the interest of tourists -which are offered a wider variety of choices, and improve visitor experience by providing a wider variety of places of different characteristic.

The vision could be summarized as "Enhancing Old Rauma's value and position in its larger cultural context, by better preserving and promoting its values, connecting it to its

immediate and natural environment, allowing it to develop in a sustainable way, while making its users aware of its values and characteristics."

The mission of the management plan is, and should remain, the protection of Old Rauma's present values. After ensuring the protection of the site's identified values in their integrity while retaining as many of the authenticity features as possible, the enhancement of the present or potential values can be discussed. The needs of present-day users, such as ensuring promenade areas and pedestrian streets, improving the pavement systems, providing appropriate parking solutions should be considered together with the protection of the site.

Strategic developments should consider the impact on the protected area. Development plans have not been made and cannot be made separately in the city of Rauma and Old Rauma. In relation to the mission of the management plan: protection of the heritage values within the historic area, the development plans within Old Rauma can refer to punctual infill, delicate insertions, re-organization of interior spaces. The areas that have been identified as being most active, dynamic, prone to changes and inadequately treated have been the main market places: Kauppatori and Kalatori.

Old Rauma can be subject to facility improvements, and soft changes focusing on the image and better understanding of the site. The contradictions between on the one hand maintaining the authenticity of the place and on the other improving the facilities, the streets or adding new technologies should be negotiated in a flexible manner. Removing the electricity pillars and cables specific for the beginning of 20th century is actually annulling these layers and reducing the authenticity of the place. However, the decision contributed to enhancing older, valuable layers, more significant for the area and for the people. Authenticity needs to be understood as a condition for existing value, but not as a value in itself. Cobblestone in Old Rauma is traditional for the place and expressive in terms of image and atmosphere, but is not part of the value layers since it does not meet the value criteria: it does not employ traditional methods, historic materials.

Development actions within the protected area should avoid changing any of the typical characteristics of the area in terms of plots, buildings, and courtyards. A more flexible approach can be used for the public places, as long as changes are soft changes and potentially reversible[648]. Pedestrian routes within the historic area and along the Canal are needed by the users and are sustaining the structure of the World Heritage Site which was not shaped for car traffic.

Radical development and changes are not advisable, nor should they be possible in the protected area. The problems are slightly different for the buffer zone, especially in the standardized residential areas of the 1960s and 1970s. A change in attitude toward the role and significance of the buffer zone is needed for Old Rauma. The Canal is not part of the protected area, but it can be connected to the historic site through the buffer zone, ultimately linking the sea and the historic area.

The harbour has been extensively changed during the 19th and 20th centuries and it will never regain its atmosphere and specificity from the shipbuilding era. However, a gradient between the industrial harbour layers and the historic area can be defined. The private marina and harbours can be integrated and set in an urban dialogue with the protected area.

[648] Since perfect reversibility does not exist, reversibility in this case should be viewed in terms of minimal impact for the existing historic substance.

At the moment the development pressures are linked to the commercial areas: large shopping stores, commercial areas even multi-story blocks. As disruptive as these might be for the protected area, they are layers of the contemporary society, and as such they need to find their place in Rauma. However, the choice of high-rise or high-mass buildings is generally considered acceptable for cities with high densities, high spatial requirements and limited available building plots[649] which is not Rauma's case. It is difficult to reconcile a high-rise structure with a traditionally low-rise area while being respectful of urban form, urban character and ultimately human scale. More often than not, "towers are erected for the sole purpose of attracting attention, often in a predatory fashion"[650]. The same holds for iconic buildings that are meant to attract attention but "rarely meet social needs and sustainability requirements, nor ensure the continuity of urban form"[651]. It is therefore essential to weigh and mitigate the risks involved, consider available alternatives and negotiate so that the **present needs** are met with minimum loss in terms of significance and values. As these types of interventions cannot be done within the historic areas without a significant and often unacceptable degree of disturbance, the pressure is put on the areas found in the proximity to the protected area within the buffer zone. In Old Rauma, the buffer zone itself needs to be redefined in terms of the relevance it holds for the protected area, as well as its tolerances and permittivity. Only then can development plans find a convenient implementation solution.

Improvement of the quality of urban life cannot be considered in a fragmented manner. **Functional connectivity**, the quality and diversity of public places and public services need to be analysed within the whole city. Old Rauma is part of the functional hard core of the city. However, residential neighbourhoods have been developed in the 1950s to the1980s in a clustered manner around Old Rauma, increasing the distances between the functional centre and the residential areas, and therefore making the use of vehicles a necessity. For the residents of the protected area increasing the quality of the urban life means removing the cars from the historic area. For the inhabitants of more distant neighbourhoods, using a car is an imperative dictated by the long distances between home and the centre; removing the cars from the historic area would be a decrease in the quality of urban life and could potentially affect their purchasing behaviour. Alternative solutions need to be discussed in this case: better enforced parking and traffic restrictions in some areas on the W.H.S, better parking areas in the buffer zone which could be distributed in relation to the WHS and its main entry points. Public transport and general improved connectivity within the different regions of Rauma city should be considered. Very good accessibility is generally considered when regular distances are covered within 30 minutes.

Visitor management plans do not exist for Old Rauma. The information about tourist and visitor numbers and their patterns of use is very approximate. One of the main problems is the fact that visitors and tourists transiting the World Heritage Area are very difficult to count in the absence of any filters on the entrance points. Since it is estimated that a significant number of visitors are one-day visitors travelling by car, while some of the overnight stays cannot be recorded, an accurate assessment of tourist numbers cannot be done unless an ample study is ordered by the local authorities. So far none has been done.

[649] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p128
[650] Idem p129
[651] Idem p189

Cultural tourism can be considered, starting with increasing the national and international accessibility to the World Heritage Site. In the absence of visitor management plans, visitor statistics for Old Rauma, it is difficult to estimate what are the needs, tolerance in terms of visitor numbers, problems, and threats resulting from a change in touristic development. Tourism is one area underdeveloped, based on the approximate number of tourists annually visiting World Heritage Sites in the Nordic Countries. Increase in visitor traffic could become an issue when the vision for development focuses mostly on increasing visitor numbers. The amount of damage from wear and tear can increase, as the quality of the urban environment could decrease.

City branding for Old Rauma should consider country branding. The World Heritage status is a brand in itself, raising the awareness about the site. However, it has been shown that in terms of attracting tourists and having a strong brand, the nomination alone does not reposition the site. A campaign of branding and raising awareness can only use the nomination of the site. In terms of culture and heritage, Finland is best renowned for its natural beauty as well as for authenticity[652].

Marketing an urban entity is "the conscious and planned practice of signification and representation"[653], therefore for the World Heritage sites it means selecting the significance that needs to be presented and finding the best means of representation, ensuring the legibility of the resource. Customer orientation means making the customer, or users, think about the product. City branding deals with the mental images, the mental maps that the users create to orient themselves in space. They have less to do with the reality of a space or its values and more with its perception. It is important from this perspective to define within the management plan how the brand should be perceived, what should it be associated with. In Old Rauma it can be associated with the already established values of the place, or it could focus on other symbolic elements. As far as the current users are concerned, based on the frequency of used words when asked[654] to describe their mental image of the place –therefore establish associations- Old Rauma is an idyllic ensemble, peaceful, homey, coherent, a unique place with human scale, where everything is close by[655]. The central market, the church and historic city hall are at the central points in the minds of most users. The brand image should ideally present the quality and values of the place, and add brand associations and feelings. For Old Rauma branding it as a quiet, peaceful area of valuable historic wooden buildings, could work with the already established image the users have. On the other hand, a dynamic centre of various activities, combining outdoor sports and activities, with effervescent cultural life is not suitable with the quiet, peaceful branding idea. When dealing with brands, it is important to be consistent and to assume that once the brand is established in the mind of the consumer, it is very difficult to change it.

Establishing the brand for a World Heritage for Old Rauma could be problematic. As we have established in chapter 2, all the Wooden World Heritage Historic Landscapes have the wooden architecture as a mark of their identity. However, in terms of differentiation and personality attributes most focus on one core identity element: the mine in Falun, the smeltery in Roros, the church in Gammelstad Lulea. Old Rauma has a different type of personality, historically defined through its relation to the sea: geographic, functional, of status. In Old Porvoo where the

[652] Country brand index 2011 and 2012 by FutureBrand, (available at http://www.futurebrand.com/images/uploads/studies/cbi/CBI_2012-Final.pdf last accessed April 2014)
[653] Kavaratzis, Mihalis; G. J. Ashworth. 2005. "City Branding: An Effective Assertion Of Identity Or A Transitory Marketing Trick?" Tijdschrift Voor Economische En Sociale Geografie 96 (5) (December): 506–514.
[654] March 2014 study based on a questionnaire in Old Rauma.
[655] Anutlaatuinen paikka, kokonaisuus, keskisyys, yhtenäinen, idyllinen, rauhallinen, lähellä, kodikas.

shoreline didn't change it is clear how the functional elements shaped the urban structure and influenced the house size, their relation to their plots and the position within the town. Old Rauma didn't benefit from the same circumstances, as the shoreline shifted. Therefore, the only fairly constant elements of identity that shaped the urban structure itself are the markets, the canal – acting as a natural border and expansion limit to the North, and the customs gate. In terms of place branding it is important to define the personality element or elements that both identify and differentiate the area. The current landmarks are not necessarily the best solution.

Traffic: should be reconsidered, at least following the feedback received from the residents. Pedestrian streets can be considered only for the areas outside the commercial areas with limited vehicular access for the residents. Given the size and scale of Old Rauma, it is possible to redirect traffic outside the protected area, grouping key parking areas within the buffer zone for both residents as well as visitors. It is important to allow occasional traffic as well as emergency traffic through the area, but limit all other vehicle activity - especially transit traffic- to a minimum. Motorcycles and mopeds have also been identified as disturbing the public peace and raising safety problems. The narrowness of the streets cannot be changed, but the entrance policy and use of the area can. It is also important to set in place deterrents and barriers or otherwise set into place systems that would ensure the rules are being followed: it is not uncommon for cars to drive on the sidewalk designed for pedestrians in order to avoid the vibrations produced by driving on the cobblestones. Drive-through traffic in the protected area is a common occurrence. The street's paving in terms of both authenticity and accessibility could be reconsidered.

Improving access to the historic area depends on the type and frequency of public transportations means. These can be busses, trains or boats, extending even to the airport in Pori for international tourists. The costs of implementing an efficient coordinated transportation system linking Old Rauma to areas outside the city and to distant neighbourhoods have to be weighed against the potential incomes from tourism and increased activity in the centre. The outcome cannot be estimated without a study of the residents' needs and willingness to use public transportation corroborated with a study of the tourists' behaviour and expectations[656]. Such studies do not currently exist. The conservation architect could interpret the results of such research, but the qualification needed for this type of study do not belong to the field of architecture.

Action Plan: improving the quality of urban life has been considered in many evaluations and plans elaborated for Old Rauma thus far. It is important, however, to define how this can be achieved for various stakeholders considering their needs. For families with small children, as well as for the elderly this can refer to ensuring a quiet, enjoyable walking or resting area sheltered from the main traffic and within walking distance from their residence. The green areas and parks around Old Rauma and along the canal could provide routes of different length satisfying this need. For tourists, taking into account the basic need to enjoy the qualities of the place, local cuisine and craftsmanship, improved quality of urban life could refer to providing leisure areas and areas for cultural activities within the historic core: restaurants, cafes, cultural places - exhibition places, museums, small activity studios for plays and concerts. In terms of traffic, the quality of urban life reflects on the maintenance of the pavement and streets as well as to the comfort the pedestrian has on the street. Appropriate illumination, bike lanes, pedestrian lanes,

[656] Giving the answer to the question: would tourism and tourism related income increase with better accessibility and connectivity to Old Rauma?

considering accessibility issues for people with various disabilities, sound pollution, air quality, all contribute to the quality of life.

Rauma considers its heritage a resource for the tourism industry, which brings into discussion issues such as connectivity with other towns and integrating Old Rauma in a wider national or international cultural circuit.

Improving the quality of life is linked mainly to the quality of the public spaces, to the level of maintenance of the site and to its liveliness. The liveliness of the centre was generally linked to the functional diversity and to shops' operating hours. According to the Finnish law[657], stores have legally limited functioning hours. However, the users of Old Rauma, including shop clerks and shop owners have complained that the vitality of the centre is lowered by these limitations. For traditional shops, owned and operated in a traditional way –usually directly involving the owner- as well as for centres promoting or housing public events, these restrictions could be perhaps negotiated.

More restaurants and small scale stores, including grocery stores in the protected area would be beneficial and were considered a necessity by the local users. Functional diversity and increased flexibility in the operating hours could improve the trading environment in the historic area.

In terms of development, especially in the buffer zone and the fringe areas, it is important to observe one common denominator for successful insertions or new buildings: need. In most cases, whether discussing the changes of the 1960s, 1970s or the changes imposed in the 17th and 18th centuries, modernisations and improvements built on a stylistic framework have proven destructive in time. The new styles and technologies, the creative but untested innovations both in terms of architecture as well as urban planning, have proven disruptive if they were not answering a pressing and long lasting need of the community.

V. Budgeting

Although the budgeting and assigning of responsibilities should be discussed and decided by the local authorities, there are a few points that need to be considered:

Responsibilities should be distributed clearly and publicly so that at any given time and according to their needs, all stakeholders would be aware of whom they can contact, where and when. The people or groups of people responsible for the conservation work for residential buildings should be made public alongside their contact details. The availability of the conservation architect should also be stated. The conservation architect, in this case, should periodically report and oversee the state of conservation for private properties. Regardless of the owner's decision to repair, maintain or conserve the property, periodic surveys should be made on the state of conservation for heritage within the protected area, and preferably should be made public[658]. Social pressure in some cases can determine property owners to better maintain their property.

There are also necessary costs involved in both maintaining responsible personnel available on site, providing the users with information and resources for various activities, as well

[657] The law concerning the shop and hairdresser opening hours: 27.11.2009/945 (accesible at http://www.finlex.fi/fi/laki/ajantasa/2009/20090945 last accessed march 2014)
[658] State of conservation is not equivalent to value of the property.

as costs involved in terms of implementing actions following the management plan. These costs should be evaluated and prioritized internally.

The archiving of documentation for the site should be controlled by one entity, who could also assist the research projects proposed by the volunteering or academic institutions interested in the site.

VI. The review and refinement of the plans

All management plans and value analysis should have a validity period, according to the changes or expected changes occurring in the town. Most development or investment projects should have a re-evaluation stage, after the implementation stage in order to assess the impact of the project. In most cases when insertions or new buildings are planned in a sensitive area, the effects under scrutiny are the ones occurring during the building or immediately after the completion. However, negative economic and social changes, modification of the use patterns can occur years after the completion of the project. Therefore key parameters should be maintained under scrutiny to show the evolution trends. For example, the main concern during and after building the shopping malls inside the buffer zone of Old Rauma, was whether it would negatively impact sales and shopping patterns for the commercial areas inside the WHS. The large shopping mall could become a direct competitor for small shops selling particular products, such as small bakeries or grocery stores, small clothing and textile stores, stores that sell general purpose items. However, a comprehensive study pointing out which stores would be most affected, looking at the sales figures and the main sales trends in the period during the construction of the department store, immediately after and in the following period was never carried out, or never made public. The general impression that the department store did not affect the commercial life of Old Rauma was not based on any statistics, and therefore, the following decision to allow more department stores to be built in the buffer zone in the immediate vicinity of the protected area cannot be argued against or sustained by any hard factual data. No other impact assessments or research have been carried out: no research regarding the social impact, visual impact, changes in perceptions and atmosphere around and within the WHS influenced by the shopping mall.

The review of development and conservation decisions can help outline an impact report following the implementation. The questions that need to be answered are: what was expected to be achieved, what was actually achieved, what were the assessed risk factors, what were the difficulties, what was the allocated budget and, if the case, why was the budget exceeded. Whether the issue under debate is a development project, a conservation plan, a management plan, a town plan, or just the general maintenance involving repainting the facades in Old Rauma, the review of these actions should be made available, discussed and recorded for future reference. Based on these reviews, refinement of future plans can be made more efficiently, using physical evidence of recorded hardship, problems and precedents.

Management Plans usually have a validity of up to 10 years. However, assessment of the effectiveness of the actions proposed should be made more frequently, comparing data of what was predicted and what was recorded subsequent to the implementation.

CONCLUSIONS AND LIMITATIONS TO OLD RAUMA'S AGGREGATED MANAGEMENT PLAN

Summary

Nowadays Finland's town planning and historic urban area protection focuses on the monumental approach to conservation, has a compartmentalised approach to territories, issues and policies. It does not have, nor promotes, a more holistic approach which could take into consideration the physical as well as economic and social dimensions of urban development. At the same time, on the international stage the Historic Urban Landscape approach gains more ground as "there is a growing consensus that the historic city should be viewed not only as a unity of architectural monuments and supporting fabric, but also as a complex layering of meanings, connected both to its natural environment and to its geological structure as well as to its metropolitan hinterland. Values residing in tangible and intangible heritage contribute to the creation of a spirit of place, which is both singular and irreplaceable."[659] However, in Finland the historic urban landscape approach is not being employed. As a result a number of threats and dysfunctions of the urban areas can be noticed including: gentrification, fragmentation, urban shrinkage and urban sprawl, 'museumification' of some historical areas, loss of identity, and demolition as a result of development pressures. Tangible and intangible aspects of the historic urban areas are dealt with separately with general emphasis on the physical dimensions. In order to preserve the specificity and values of these significant cultural areas, for present users and generations to come, there is a need to firstly reassess the historic urban areas from the historic urban landscape perspective and secondly acknowledge that change is necessary, unavoidable but at the same time manageable. This is particularly relevant for World Heritage Sites, but historic urban areas in general can greatly benefit from this shift in perspective. The present research sought to answer the question "What kind of new tool could improve the way heritage is approached, understood and protected from the historic urban landscape perspective in Finland?" while the consensus has been that traditional approaches to the protection of urban historic areas have proven limited in scope.

Management plans can be used as a more comprehensive tool that considers the historic urban landscape approach to heritage and integrates conservation strategies and plans in order to better preserve existing values and control change in Finland's wooden historic urban areas. Management plans come as a response for the new perspective on heritage, attempting to set the strategic framework that can combine conservation, development, tourism, social programs and economic issues into one coherent plan. They consider the intangible heritage, social and economic dimensions of cultural heritage and acknowledge that all of the above are essential to the protection of the singular and irreplaceable significance and *"genius loci"* of a place. The past decades have shown that traditional approaches to urban heritage do not solve all specific problems of different places, allowing for the erosion of values and significance. The holistic approach of the historic urban landscape and its associated management plan can: significantly improve the conservation of historic areas, enhance the preservation of tangibles and intangibles, can harmonise conservation and development by considering them in a connected manner. The approach also reconsiders the *"genius loci"* from the perspective of the users and stakeholders,

[659] Bandarin, Francesco, and Ron van Oers. 2012. The Historic Urban Landscape: Managing Heritage in an Urban Century. 1 edition. Wiley. p176

allowing for a more significance-based end result rather than a value-based result which is not shared by local communities.

Structure of the thesis

The aggregated management plan can be used as a tool to control and optimize changes within the historic urban landscapes. In order to analyse and control changes for historic urban landscapes, especially for World Heritage Sites, it is important to periodically re-assess the characteristics and specificity of the place, considering both tangible and intangible components. Understanding: history as a process, the subjective nature of the values we associate with places, the layered realities that make up the *"genius loci"* of the place, is important in the process of managing change. Preserving the material substance of a place becomes less important in relation to maintaining the significance and meaning of that place. The historic urban landscape is a multi-disciplinary, multi-layered concept that can be understood only in its dynamic nature, as a process combining tangibles and intangibles. The concepts leading to the definitions and understanding of the Historic Urban Landscape have been analysed in chapter 1 of the present paper.

At the top of the hierarchy in terms of relevance, universal values, authenticity and integrity, the World Heritage Historic Urban Landscapes are perhaps amongst the most elaborate. In order to restrict the extent of the present study, the analysis of the historic urban landscapes has been limited to the Fennoscandian cultural region, focusing on the wooden World Heritage Historic Urban Landscapes. The specificity of these sites and the *"genius loci"* is closely connected to both tangibles and intangibles. Often the specificity and recognised values are distinct from the most dominant characteristics of the place, and in most cases the identity of the place can relate to one recognisable element: the church, the mine, a feature of the natural context. The relation to the natural environment, the connections between protection areas and buffer zones, the manner in which development and protection are being balanced can significantly impact the site. The traditional communities and the patterns of use: whether the sites have been used continuously or seasonally, affects the specificity and the values of the place. The level of maintenance, protection, the authenticity, integrity, the values and threats of the place can be correlated with the patterns of use. The way in which management plans are elaborated and used affect the changes brought to the sites. In some situations the management plans are formulated in a formal way, not integrated in the town plans and sometimes these are missing altogether. For the historic urban landscapes the management plans are fundamental in understanding and controlling changes. This has been considered in chapter 2. The Mining Area of the Great Copper Mountain in Falun, the Church Village of Gammelstad- Luleå, the Røros Mining Town and the Circumference and Old Rauma have been analysed comparatively in chapter 2, showing the similarities, differences and particularities of each place as well as the chosen method for their protection.

In chapter 3 the elements of specificity have been analysed for Finland's specific cultural region. Dealing with change in H.U.L. involves a multitude of fields, implies knowledge of the local laws and regulations, customs, traditions, norms. It takes into account the continuity in use – which sets apart the living historic areas from open air museums, and the needs and requirements of the traditional communities. The general context of the "wooden town" is investigated: as a phenomenon, the wooden town is a historic urban landscape that derives its specificity from the wide use of wood as a building material. Historically the evolution of towns, the legislation, the town planning, building techniques and ultimately the architecture have been affected by the widespread use of wood. There are reasons to believe that the choice of the

material is not only linked to its availability and economic value, but might be connected to the communities, lifestyles and ultimately to the spirit of the place. The wooden historic urban landscapes of Finland have a number of common traits influenced by the national political, social or economic and context. These have been emphasised throughout the chapter, underlining the difference between town and city and the importance of wood for Finnish urban planning. The "wooden town" is understood as a specific form of historic urban landscape, deriving part of its outlook and strategies from the materiality of the place. The extensive use of wood influences the specificity of the place as well as the behaviour of structures, outlook of the architecture, shapes the traditional techniques. The specificity of the wood itself has been pointed out, showing that each wood component is actually unique and worth preserving.

In the fourth chapter, the applicability of the aggregated management plan is discussed in relation to the Finish context. At first this is examined at a wider scale, considering the specificity of five wooden historic urban landscapes, pointing out their traits and threats from the perspective of the concepts defined in chapter 1. The tangibles and intangibles are interdependent, and they equally shape the specificity or *"genius loci"* of the place, which may be defined and understood differently by professionals and users.

Chapter five defines the tool able to encompass the complexity of change from a historic urban landscape perspective. The aggregated management plan attempts to provide an answer to dealing with changes in H.U.L, by aggregating essential elements onto a predefined strategic framework. A site can be analysed from different perspectives, always bearing in mind the vision for change. Intervention plans can be made considering the impact on different components. The plan correlates components but does not assume that one individual or team can tackle the process: it is based on team work and aggregated participatory efforts rather than on hierarchic strategic planning integrated into town planning. The proposed aggregated management plan for wooden historic urban landscapes is an instrument tailored for the specific needs and traits of this type of approach. The Aggregated Management plan is a strategic tool meant to control and limit change in historic urban landscapes. It may help in making informed choices that would minimize the negative impact on historic urban areas but it does not, however, substitute town planning or conservation plans. For town planners and administrators lacking funding and resources to implement even a minimal coherent conservation plan, the effort of using yet another tool can seem overwhelming regardless of the advantages it presents in the long run. However, the aggregated management plan can allow even for a simplified approach to historic urban landscapes on a schematic strategic framework that can be developed according to the site's needs and budget. Dealing with H.U.L. should be based on empowering communities, turning the users into active participants in the process of conservation. The team that can take on such a challenge must be a multi-disciplinary one, and the end product should reflect the manifold nature of H.U.L.

Finally in chapter six, the aggregated management plan is applied to a Finnish wooden Historic Urban Landscape, Old Rauma, considering the full cycle of the complex process.

Empirical findings

Generally in the Nordic Countries there is a preference for the more traditional approach to the city, one based on the town planning tradition and the management of the city viewed as a built form of material culture. The focus rests mostly on the physical dimension of heritage, and this slowly erodes the existing values. Fragmentation in Falun, 'museumification' and loss of

authenticity in Røros, development pressures on the outskirts of Gammelstad-Luleå, loss of identity and connection in Old Rauma, are just a few of the threats to the values of the World Heritage Sites of the North. The *"genius loci"* is present always in an implicit way –perhaps this is how it is supposed to be in order to maintain a certain degree of mystery of the place- and it never completely reveals itself.

While efforts are being made at a national level to maintain these sites of Outstanding Universal Value, the same cannot be said for the other historic urban areas. In Finland, a country almost exclusively relying on town planning for the protection of its urban historic areas, the lack of a holistic approach to conservation, development and management of change often leads to paradoxes and threats to the urban lifestyles: gentrification, urban sprawl, planning blight, fragmentation, "iconic" architecture devoid of meaning and aggressing its urban surrounding, development pressures eroding the borders of the historic areas. Some 19th and the 20th century layers are not generally considered heritage nor are they protected as such, in spite of the meaning and significance these layers have for their users. The local communities are not empowered in taking part in the preservation of heritage values. The adequate communication platforms that would engage all stakeholders are still missing. There are public consultation procedures and processes enforced, but most users agree these are clumsy and often difficult to use. Old Rauma, Old Porvoo, Tammisaari, Uusikaupunki, Kristiinankaupunki have different conservation-related problems, some of which can be correlated to the connectivity with the major economic centres of the country. However, connectivity and lack of communication with the stakeholders accounts for a limited number of problems identified in the historic areas. Perhaps one of the most significant issues is the lack of awareness on the places' specificity as well as the focus on the conservation of the material values. This problem could be alleviated by a H.U.L. approach where the value of the place would be re-assessed considering a bottom-up, stakeholder focused method. The "wooden town" concept in the Finnish context points to the specificity of historic architecture, which does rely on the extensive use of wood. Although the concept of the "wooden town" can gather a wide group of specific elements, it is not specific in itself. Therefore, it cannot be considered a unique trait of Finnish historic urbanism. There are a number of characteristics of the tangible and intangible dimension of the Finnish historic urban landscapes, and wood is only one of them. This makes the umbrella term 'wooden town' too broad and therefore irrelevant for the understanding of H.U.L. There is a need to reassess significance and values as well as urban conservation and development from the historic urban landscape perspective, especially in order to maintain the local specificity and minimize the economic, social and cultural costs the cities have been paying. Both the historic urban areas as well as the World Heritage Sites would benefit from a historic urban landscape approach and its associated tool the management plan.

Limitations of the study and recommendation for future research

A coherent comprehensive Aggregated Management plan cannot be made without a multidisciplinary team of experts working in close collaboration with the stakeholders of the site. Although the present research touches on some aspects of urban conservation, there are social and economic issues that can be further developed in collaboration with experts from these fields. For Old Rauma the involvement of the local community, of Tammela, the city planning and Rauma museum in a joint program is fundamental, should this type of management plan ever be implemented.

There is a real need to redefine the significance of Finnish urban historic areas, followed by the outline of an accurate buffer zone seen from the perspective of 'area of significance and impact' within the historic urban landscape. Only then coherent strategies and policies can be drafted, by taking in consideration risks and threats inside the area of highest significance, but also being exerted from without the area. Rituals, traditions, beliefs and lifestyles are part of the city's urban values and should be identified, interpreted and protected together with their tangible counterparts. This, however, cannot be done solely in a theoretical sense, as administrators and local users of the site should be included, or ideally directly involved, in these processes.

Development and planning strategies should be adapted to the needs and requirements of the site itself, the identified stakeholders, and the economic and planning policies of the region. The present thesis has focused mainly on the inhabitants and homeowners of Old Rauma itself that live within the protected area. The needs and behaviour patterns of the residents of the wider city area, particularly those living in the buffer area should also be analysed. Since Old Rauma is both a nationally representative site, as well as a World Heritage Site, the level of awareness and the manner in which Finns generally perceive Old Rauma should also be scrutinized, as well as the international, wider perspective. Several components of the management plan which have been discussed are not the domain of architecture and should be developed by appropriate teams of specialists. Therefore, the proposed aggregated management plan provides general guidelines for improving a nowadays incomplete process.

Since the present research has been carried out independently from other professionals and research teams, it is acknowledged that it focuses mainly on architecture and urban structure related issues. The information and outcome of the project can be used or developed further by the Rauma decision makers. The reliability and validity of the proposal are limited by the expertise of the author, but it outlines nevertheless a holistic approach to dealing with change in Old Rauma seen from the Historic Urban Landscape perspective.

Conclusion

The Aggregated Management Plan is a tool that can reflect the complexity of defining historic urban areas and their significance from the historic urban landscape perspective. It can aggregate all relevant components into one coherent document built on a predefined framework. The general steps needed to delineate the aggregated management plan are the same for most sites since the general procedure and management cycle are the same. However, the content of each step is tailored by the specificity of the site, needs for its stakeholders, resources available, and existing opportunities. A multidisciplinary team should be considered for the elaboration of such a plan, gathering according to the stage of planning and requirements, a number of specialists such as: architects, urban planners, economists, sociologists, craftsmen, geographers, as well as local stakeholders: local users, business owners, local administration, NGOs, students and faculties of colleges and universities. Ultimately the city as a whole is a historic entity. Therefore, the ultimate goal of the management plan is to relate to the historic urban areas as systems that integrate natural, man-made elements as well as intangible qualities in a historical, layered continuum. At the city scale, historic is what we inherit but also potentially, what we create; therefore, coherently integrating these aspects while maintaining what is meaningful in a place is the real challenge of managing change.

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Documentation used for the analysis of Finland's Historic Urban Areas:

The present appendix presents the sources used for the analysis of Finland's Historic Urban Areas and intends to justify the type of analysis chosen for each of the presented sites.

Site	Official websites	Contemporary plans	Historic plans from local archives	Field information	Contemporary information /statistics	Touristic information	Historic sources	Historic Pictures
Old Rauma	www.rauma.fi http://www.oldrauma.fi/	Yes. City planning department	yes	Yes. Over 10 site visits	Yes	Partial info from hotels, museums and estimated tourists travelling by bus	Archives and published materials	Yes. Rauman Museo
Old Porvoo	http://www.vanhaporvoo.org/ http://www.porvoo.fi/ http://www.visitporvoo.fi/	Yes. Source: Maanmittauslaitos	Yes		Yes	yes	Archives and published materials	Yes. Museovirasto
Tammisaari	http://www.visitraseborg.com/	Yes. Source: Maanmittauslaitos	No	Yes. 3 visits on site	Yes	Partial	Published materials.	No
Uusikaupunki	http://www.uusikaupunki.fi/	Yes. Source: Maanmittauslaitos	No		Partial	no	Published materials	Yes
Kristiinankaupunki	http://www.kristiinankaupunki.fi/	Yes. City planning department	Yes	Yes. 3 visits on site	Yes	Partial	Archives, city planning office and published materials	No

Conclusion of the study case analysis:

	Specificity	Strong points	Weak points	Threats	Opportunities
Old Rauma	Commercial harbour town, wooden architecture, growth within restricted boundaries. Land uplift dramatically changed the topography and connections within the city.	Character, integrity and authenticity.	Buffer zone definition. Maintenance. Relationship with the Canal. Communication between stakeholders. Communication policies and platforms. In some isolated cases museumification. Accessibility to the site. Parking on and around the site. Limitation to its definition as HUL.	Access points to the site. Functions within representative areas. Fire protection systems. No operational management plan for the World Heritage Site. Authenticity is threatened in some cases by additions and modifications of the historic fabric.	Redefinition and enhancement of the buffer zone.
Old Porvoo	Lifestyles, atmosphere, functional diversity and the relationship with the Porvoo river. Medieval street geometry and structure, slightly diverging from the orthogonal system.	Functional diversity	Museumification in some cases. Very strong touristic orientation. Intangibles are not acknowledged. Moral wear. Not considered a historic urban landscape but rather a historic area.	Fire protection systems. Lack of coherent management and maintenance systems and visitor management plans.	
Tammisaari	Harbour town, relation with the sea.	Connection to its environment and connection to the sea. Integration between historic town and city.	Rigid conservation policy based primarily on age value. Weak control over the changes to the existing historic fabric. Not considered a historic urban landscape but rather a historic area.	Fire protection systems. Maintenance of the historic fabric in some cases. Replacement of historic buildings with modern ones. Cost of lost opportunity. Stylistic	Geographic positioning and connectivity with other major Finnish cities.

				restoration and modernisations of the historic structures. Gentrification	
Uusikaupunki	Size of the town and its community, relationship with the sea. The industrial layers and the car manufacturing industry.	It preserved the industrial and post-industrial layers. Authenticity of the Empire style layers, especially around the centre of the town. Small community promoting the ideas and lifestyles of a Carbon Neutral Town (possible branding).	Demographic fluctuations and changes in the local community structure. Integrity of the historic urban landscape is under threat from population migration and urban shrinkage. Fragmentation: the industrial layers of the centre are not well integrated with the historic ones. Not considered a historic urban landscape but rather a historic area.	Material authenticity threatened by home improvements and desire to reach carbon neutrality in historic houses. Fire protection systems.	
Kristiinankaupunki	Means of access to the site. Connection with the immediate surroundings. Good preservation of heritage achieved through slow development.	Cittaslow as means to counter urban shrinkage. Clear hierarchy and connections between the most significant areas of the town. Material authenticity.	Population decrease. Unused buildings: main buildings and outbuildings. Not considered a historic urban landscape but rather a historic area. Fire protection systems can be improved. Parking areas . The impact of the cumulative 'small changes'. Intangibles are not strongly expressed, sign of a contracting local community.	Not enough incentives, projects and stimulating economic measures that can attract investors or maintain its local community. Urban shrinkage. Town centre lacks the active, stimulating urban life.	Predictable changes, slow development.

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Hei! Nimeni on Anca Dumitrescu. Olen jatko-opiskelija Tampereen teknillisessä yliopistossa ja pyytäisin apuanne koulutukseeni liittyvässä tutkimusasiassa. Teen tutkimuksen, joka liittyy Vanhaan Raumaan ja sen hoitosuunnitelmaan, siksi mielipiteenne tässä asiassa olisi minulle erittäin arvokas. Pyydän teitä täydentämään oheisen kyselylomakkeen ja palauttamaan sen minulle kirjeestä löytyvästä ennakkomaksetussa palautuskuoressa.

1. Missä te asutte?

☐ Vanhassa Raumassa

☐ Raumalla

☐ Muualla Suomessa: _____

☐ Suomen ulkopuolella

2. Mikä seuraavista kuvaa teitä parhaiten Vanhassa Raumassa?

☐ Asun omistusasunnossa

☐ Vuokraan asuntoani

☐ Olen vuokralainen

☐ Olen kaupungin virkamies

☐ Mikään edellä mainituista, mutta olen kiinnostunut Vanhasta Raumasta

3. Kuinka vanha te olette?

☐ alle 18

☐ 19-25

☐ 26-35

☐ 36-55

☐ 56-65

☐ yli 65

4. Mikä on teidän ammatillinen taustanne?

_____

Palautattehan sen maaliskuun loppuun asti. Kiitos teille!

II. Kysymyksiä Vanhasta Raumasta omistajille ja käyttäjille

Ohita tämä sivu, jos ette ole omistajat tai käyttäjät

II.1. Minkälaisia mielikuvia teille tulee Vanhasta Raumasta?

_____

II.2. Mikä on edustavinta Vanhassa Raumassa?

_____

II.3. Mikä seuraavista on tärkein Vanhassa Raumassa?

- ☐ Rakennukset
- ☐ Kadut
- ☐ Kauppatori
- ☐ Ihmiset
- ☐ Tunnelma
- ☐ Liikeet

II.4. Miksi Vanha Rauma on arvokas teille?

_____

II.5. Mitä on Vanhan Rauman paras ominaisuus?

_____

II.6. Mikä on Vanhan Rauman huonoin ominaisuus?

_____

II.7. Jos voisitte muuttaa Vanhassa Raumassa jotakin mitä te muuttaisitte?

_____

II.8. Mikä on teidän suosikki paikka Vanhassa Raumassa?

_____

II.9. Mikä on teidän suosikki rakennus tai maamerkki?

_____

Palautattehan sen maaliskuun loppuun asti. Kiitos teille!

II.10. Syöttekö ravintolassa tai kahvilassa Vanhassa Raumassa?

- ☐ En
- ☐ Kerta vuodessa
- ☐ Vain erikoistapauksissa, muutaman kerran vuodessa
- ☐ Joka kuukausi
- ☐ Joka viikko, pääsääntöisesti viikonloppuisin.
- ☐ Aina kun voin, vähintään käyn kahvilla.
- ☐ Käytkö Pystökaffella

II.11. Missä te vietätte suurimman osan vapaa-ajastanne kesällä?

- ☐ Ulkomailla
- ☐ Suomessa esim Lapissa.
- ☐ Vanhassa Raumassa puutarhassani
- ☐ Kyläilen naapureilla
- ☐ Kotonani Vanhassa Raumassa.
- ☐ Käyn ostoksilla jossakin
- ☐ Luonnossa
- ☐ Purjehdin
- ☐ muu, mikä?

_____

II.12. Missä vietätte suurimman osan vapaa-ajastanne talvella?

- ☐ Ulkomailla
- ☐ Suomessa esim. Lapissa
- ☐ Pois Vanhassa Raumassa puutarhassani ja saunassani
- ☐ Kotonani Vanhassa Raumassa
- ☐ Käyn kyläilemässä naapureissa
- ☐ Käyn kaupungilla, museiossa ja osallistun tapahtumiin
- ☐ Käyn ostoksilla jossakin
- ☐ Luonnossa
- ☐ Harrastan vain talviurheilua, missä ikinä vain voin.
- ☐ muu, mikä?_____

II.13. Pitäisikö Vanhan Rauman olla maailmanperintö kohde?

- ☐ Kyllä, koska

  _____
- ☐ Ei, koska

  _____
- ☐ En tiedä, mielestäni se ei ole tärkeää

Kiitos antamistanne tiedoista!

Palautattehan sen maaliskuun loppuun asti. Kiitos teille!

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